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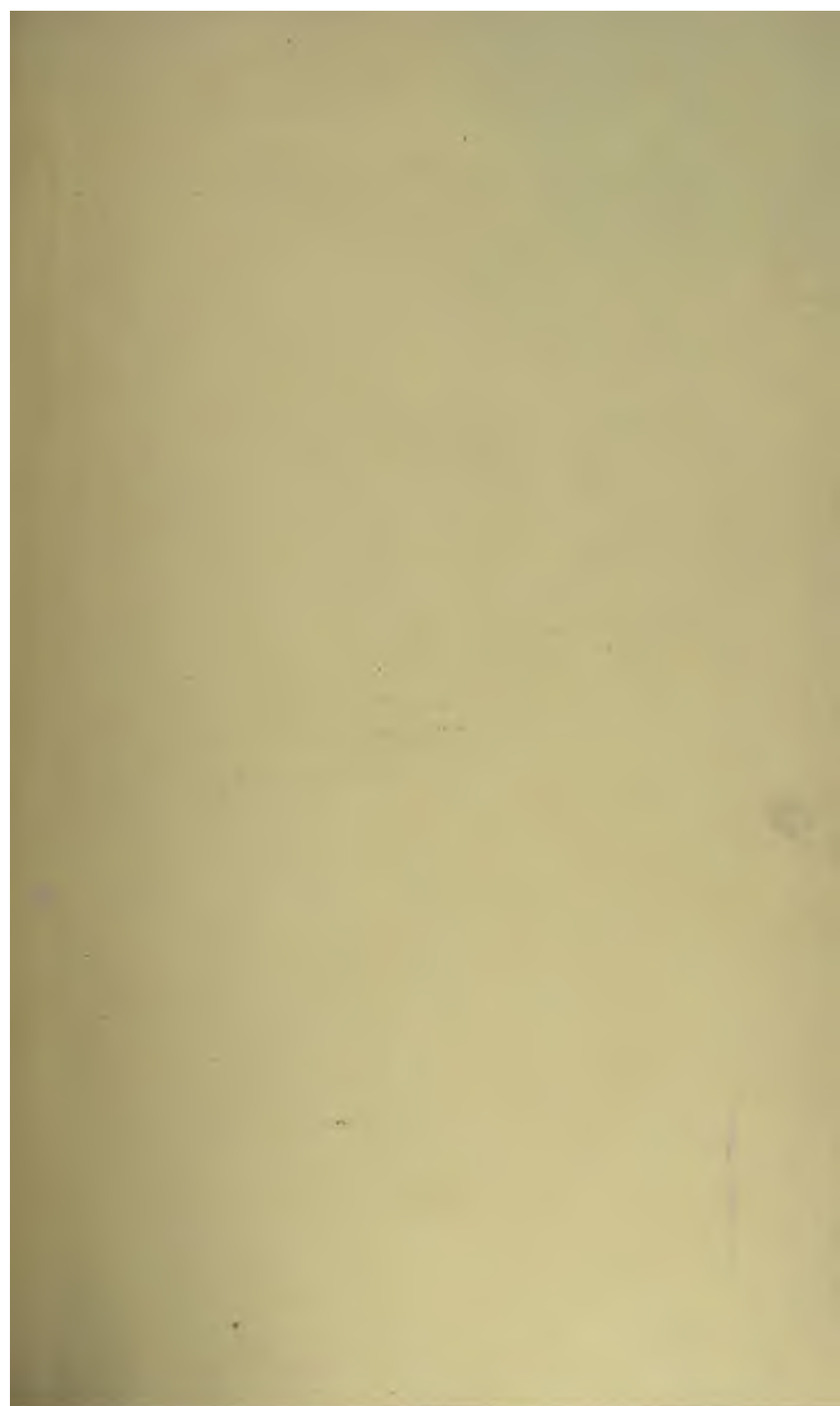
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A HAND-BOOK
OF
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AND OF
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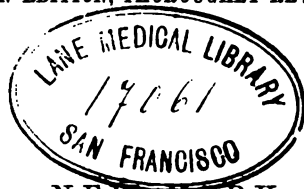
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BY

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RINGDON GENERAL DISPENSARY; FELLOW OF THE ROYAL MEDICAL AND CHIRUR-
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SECOND AMERICAN EDITION, THOROUGHLY REVISED AND AMENDED.



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PREFACE TO THE AMERICAN EDITION.

I WILLINGLY accede to Mr. Appleton's request, that I should revise, for America, the lately-issued third edition of my hand-book of Uterine Therapeutics, and I shall briefly explain the views that have guided me in the construction and the perfecting of that work. It seems to me, that there is nothing immutable in the diseases that afflict mankind, for history teaches us that new diseases spring up, and that others disappear, and the writings of such men as Stoll, Sydenham, and Broussais, lead me to believe that the type of diseases may change, and many a respected practitioner has assured me that inflammatory affections were much more acute forty years ago than they are now. While thus believing that the type of diseases may change, I believe that there is a fashion in medicine, and much greater fluctuations of medical opinion than are warranted by variations in the intensity of morbid action. These fluctuations of opinion are partly owing to the progress of medical knowledge bringing into salience some new doctrine, and are partly caused by the very nature of the human mind, which is prone to pass from one exaggeration to another. When the pendulum of the human mind has violently swung in one direction, it will assuredly, after a certain lapse of years, swing back, with equal mo-

mentum, in the opposite direction. There is little rest between extremes; we have only just escaped from the reign of exorbitant doses and over-stringent pharmaceutical formalism, and we are now menaced with a rapid return to that slough of expectant medicine, which, centuries ago, was rightly stigmatized as "a meditation on death." Only a few years back we were outrageously frightened by the bugbear of inflammation, and already our utility is often paralyzed by the bugbear of debility.

An eclipse of faith is spreading over the face of British medicine, and there is a tendency to disparage the large amount of therapeutical knowledge that has been accumulated; but those who regret this tendency will remember that medicine is not bounded by the British line of coast. If some of our most eminent men have no longer faith in medicines, there is no want of that faith on the Continent. With regard to France, I have watched the variations of medical belief, during the last thirty years, and it will be useful to compare these changes with those progressing in England during the same period. Broussais published, in 1816, the first edition of his "*Examen des Doctrines Médicales*," and by four editions of that work, and by his numerous contributions to the medical press, all burning with passionate eloquence, the doctrine of inflammation, as the cause of all diseases, spread like wildfire, to die out almost as fast, for, although the last edition of his work was published in 1829, when I began the study of medicine in 1834, gastritis was already the standing joke of medical students; but as Broussais had been most virulent in his attacks upon the *polypharmacie* of former ages, when the profession lost faith in bleeding and leeches, they had only expectation to fall back upon. While this was going on, the South of France was somewhat preserved from the new doctrines, by the traditional antagonism of the school of Montpellier to that of Paris; and the East, by the fact

of the school of Strasburg being half German. Even in Paris, many sensible men never believed in Broussais—they kept alive the good old therapeutical doctrines, and propagated them in the *Revue Médicale*, which was founded, in 1820, by Recamier and Cayol; Michel and Bayles, I believe, founded the *Bulletin de Thérapeutique* in 1831, with the same object. The most influential conservative leader was, however, Recamier, for he was the teacher of Trousseau and Pidoux, who have done more than any others to spread sound therapeutical knowledge in France, by three editions of their work “On Therapeutics,” of which the first edition appeared in 1836; by their numerous contributions to medical literature, and by the teaching of Trousseau, when, after a magnificent *concours*, about 1835, he took the chair of Therapeutics in the Paris school, and held it for many years.

After taking a Paris degree in 1839, I came to London to walk the hospitals, passing at once from an atmosphere of doubt, skepticism, and therapeutical inaction, to a land where the medical mind was reposing in the undisturbed conviction that it had brought therapeutics to perfection. Had not exorbitant doses of medicine been utterly repudiated? Were there not three national pharmacopœias to be chosen from, besides the special pharmacopœia of each large hospital? Had not all this positive pharmaceutical lore culminated in the just published work of Pereira—to be henceforth the bible of British practice? Every medical man I spoke to shrugged his shoulders at the miserable ignorance of therapeutics in the French school: and as I walked round the hospitals I never ceased admiring the wonderful confidence with which drugs were being administered, and the number of medicines that were usually prescribed together. But even when all seemed so safely settled, there were thinkers already chafing against the system which ignored more or less

the all-healing powers of Nature, and they found an exponent in John Forbes, who, in 1845, published his article on "Heteropathy, Allopathy, and Young Physic." Since then, the choice medical spirits of the two countries have been marching in opposite directions; the French gradually acquiring a steady increasing faith in remedies, and adopting our former notions. France finding an enthusiastic admirer and translator in Trouseau. In England, on the contrary, there has been a growing tendency to believe that medicines are comparatively useless, and, although with immense labor and great expense, we preserve an orthodox canon of therapeutics for the whole kingdom, when the British Pharmacopœia makes its appearance, two of our most distinguished hospital physicians are found advocating the treatment of acute rheumatic fever by mint-water.

This loss of faith in therapeutics has been deplored by men who, like Mr. Thomas Watson and Dr. Copland, have made themselves deservedly famous as skilful practitioners. Others, who are still bearing the full burden of professional labor, like Dr. Wilks, Dr. Stoveling, and Dr. Fuller, have given expression to similar opinions; and I wish this enlarged edition to be taken as my protest against the disparagement of a large amount of therapeutical wisdom, that has been handed down to us for our guidance in the treatment of disease, from one generation of medical observers to another, notwithstanding the advance of civilization, the increase of medical knowledge, and the various systems that have, each in its turn, ruled over medicine. It is not surprising that many of those who devote themselves to the study of the diseases of women, should have participated in this loss of therapeutical faith, and should have favored an exaggerated development of obstetric surgery. This work will sufficiently show that I do not wish to disparage the use of surgery in the treatment of diseases of women, and I quite under-


stand that the splendid achievements of those American surgeons, who have taught us that we can safely remove ovarian tumors, and how to cure vesico-vaginal fistula, should have seduced many eminent men to place their chief reliance in the knife; but it is worse than useless for a host of complaints for which there are approved remedies. The evidence of this exaggerated surgical tendency, is to be found in the mania for constructing new pessaries that has seized the medical mind; and as it has forcibly been said by Dr. McClintock: "Perhaps the most convincing and melancholy proof of the supremacy of these iatro-mechanical ideas, is to be found in the keen rivalry, even among men of real ability and deserved eminence, about the priority of invention of some apparatus for dilating, or cutting, or stretching, or rectifying the uterus."

For the last few years the time of medical societies has been principally taken up by mechanical contrivances, and by operations on the female organs of generation; but the tendency to abuse the knife was fully displayed in two works which were published in 1866. No one admires more than I do the surgical genius, great skill, and the perfect honesty of purpose, that characterize Dr. Marion Sims, who is an honor to his country, and to our profession; but his "Notes on Sterility" leave the reader under the impression that medicines are of little or no use in the treatment of diseases of women; and that the knife is the omnipotent agent of cure. In another work, a skilful surgeon sought to convince the profession that the removal of the clitoris was the best way to cure diseases of the womb, hysteria, epilepsy, and insanity.

The main points to be developed in this work are—

Firstly—The paramount importance of hygiene for the relief and cure of diseases of women.

Secondly—The constitutional nature of many diseases of wo-



men, and the impossibility of curing them, without ~~con~~
ditional remedies.

Thirdly—The manifest reaction of uterine diseases ~~on~~
female system, and the impossibility of curing many ~~uter~~
complaints, without surgical measures.

Fourthly—The great value of therapeutics to assuage ~~an~~
cure diseases of women, and the belief in the value of those ~~re~~
medial measures, that are as old as medicine itself—such ~~as~~
venesection, emetics, and caustics.

In conclusion, it affords me very great pleasure to shake
hands, as it were, in this Preface, with so many valued Ameri-
can friends. A common language unites the members of the
~~same~~ profession in America and Great Britain, by the strongest
bonds of affection : and there is no danger of its being severed
by difference of climate and form of government, or even by
~~these~~ occasional causes of misunderstanding that, for party pur-
poses, are magnified by professional wire-pullers.

This union of the two professions is the type of the perfect
unity that should ever exist between the great Anglo-Saxon na-
tions, to whom Providence has given teeming progenies to peo-
ple the waste places of the earth, and the firm determination to
weigh more and more heavily in the scale of nations for the
welfare of mankind.

EDWARD JOHN TILT.

November 15, 1868.
40, Grosvenor Street, London.

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A HAND-BOOK
OF
UTERINE THERAPEUTICS
AND OF
DISEASES OF WOMEN.

INTRODUCTION.

“To the student in medicine, there are few subjects which present greater difficulties, than the study of the diseases peculiar to women. The reason of this is, at first sight, not very apparent; the diseases themselves are common enough, especially in the out-patient departments of any of the larger hospitals; they have also their special hospitals, and there is abundance of works, English and foreign, devoted to their consideration. Whence, then, is the difficulty? That it is real, any one, who will take the trouble to inquire, may easily be assured: nor can there be any doubt that the defect is one of serious importance, and often attended by very disastrous results. The student starts in practice, with the most meagre knowledge of that great class of diseases, which, we venture to say, if he has any practice at all, he must daily encounter; a wrong diagnosis is the result, treatment worse than useless is adopted, his patient continues a sufferer, and she either seeks advice elsewhere, or, her real condition being undetected, she remains, for the rest of her life, a helpless incurable, seldom free from pain, and worn out in body and mind. One great reason for this prevailing ignorance, is, no doubt, due to the great want of clinical teaching at most of our schools; in many there are no clinical lectures on this subject at all, and, however much may be gathered in the out-patient rooms, a vast deal can only be learned by careful watching at the bedside, and by note-taking from month

to month. Observation among out-patients is at the best uncertain and irregular. Without proper clinical teaching, books confuse and are liable to be misunderstood, and it is only after the experience of actual practice, that their real value is discovered, and the assistance they offer is appreciated."*

The principal reason, however, why the knowledge of diseases of women has so little advanced, is, the hitherto undisturbed belief that one sex only is qualified, by education and powers of mind, to investigate and to cure what the other sex has alone to suffer. During the middle ages, the celebrated school of Salernum produced several lady-physicians, and one, called Trotula, practised with great distinction, and wrote a work on the diseases of women; in our time, Madame Boivin and Madame Lachapelle have done the same in Paris. There are now, in America, many lady-doctors, and, if well educated, they may greatly improve our knowledge of diseases of women, but the large majority of women will continue to consult us, so long as they recognize the mental superiority of man. That freedom of investigation and of explanation, which has led to the accurate knowledge of the diseases of the lungs and of the heart, fails us when the functions of the generative organs of women become deranged. Female modesty, which is the best attribute of woman, and the surest safeguard of society, raises such a barrier between the patient and the practitioner, that she long conceals her sufferings; and when modesty bends to self-preservation and a sense of duty, she naturally prefers the elder practitioner, and this deprives the younger of the average opportunities of studying her diseases.

It was said by Mr. Mill, in his address to the University of St. Andrews, that "it is the utmost limit of human acquirement, to combine a minute knowledge of one, or of a few things, with a general knowledge of many." To needlessly subdivide the study or practice of medicine, would be most objectionable, but the field of medical study is now so vast, that the great and obvious departments of medicine can only be advanced by those who devote their whole time and energy to that purpose. Those who object to certain well-defined specialties, argue as if a Bowman, or an Erasmus Wilson, could not improve our knowledge of diseases of the eyes, or of the skin, without forgetting their anatomy and physiology, whereas it will be obvious, that no man can attain to

* *London Medical Review.*

eminence in any particular branch, without being thoroughly grounded in the whole science and art of medicine. I go further, and advise any one, who accepts the arduous task of advancing our knowledge of any particular department of medicine, to obtain a general knowledge of the processes and remedies adopted in other specialties, with a view to the improvement of his own. Thus, I have been taught the utility of arsenic, in certain forms of uterine disease, by its immense value in diseases of the skin.

To be successful in the treatment of the diseases of women, a young medical man should make women the study of his life, so as to understand their mental peculiarities as well as their physical constitution; and if, with equality of medical skill, the senior practitioner is much more successful in the treatment of women than the junior, it is that he has discovered how to bespeak their confidence, to stimulate their hope, and to keep up their perseverance until the recovery of health.

Should the young practitioner want to know in what way the most frequent diseases of women were treated up to 1821, the writings of Sir Charles M. Clarke will show him that it was somewhat after this fashion: Purgatives and fever medicines, leeches and poultices to the hypogastric region, if the pain were acute. In the absence of fever, uterine symptoms were treated by port-wine, tonics, rest on the sofa, oak-bark, or alum injections, by means of a pewter or a glass tube, in case of discharges, or the patient was told to pass up the vagina a sponge, soaked in some strong astringent solution. The treatment was the same, whether the patient suffered from vaginitis or cervical inflammation, from erosion or ulceration, or hard hypertrophy, or from soft hypertrophy, with or without extensive ulceration. The pathology of these works was on a par with their therapeutics; the diseases I have just mentioned were jumbled together under the name of *Leucorrhœa*, which now occupies but a small space in our best text-books, and does not head a chapter in the present work; for the too-abundant secretion of unchanged vaginal mucus that occurs in some women, and particularly in those of a lymphatic constitution, is a circumstance of slight importance; and if the vaginal discharge be muco-purulent or pus, then it should not be spoken of as *leucorrhœa*, for these altered secretions relate to inflammation of the womb or to vaginitis. Except as literary curiosities such works are comparatively useless, and it is not

surprising that Sir J. Y. Simpson, and Dr. Mitchell, of *D* should agree with me in assuming that uterine pathology *H* from 1816, when Recamier showed how useful the speculum *H* be for the diagnosis and treatment of uterine diseases; a *disco* which suggested to others the utility of applying local treatm^t by similar means, to diseases of the ear, and of the larynx, as *w* as to those of the urethra, the bladder, and of the rectum *up* the sigmoid flexure.

In reading the principal works that have been written *sinc* that date, the student will be struck by the varied and opposit^e views of eminent men, whose field of observation had been *the* same, some considering inflammation as the great cause of patho- logical mischief, while others politely bow it out of pathology: *one* pathologist representing the neck of the womb to be the main source of the diseases of women; another, that in pathology, as in physiology, the ovary rules supreme. One man saying, that unless cancerous or scrofulous, he has never seen an ulcer of the womb; and another, that he has seen it so frequently that it can have no pathological value whatever; one authority stating, that uterine displacements are only troublesome when complicated by congestion and inflammation; and another, that displacements are the chief causes of diseases of women. Some representing the womb as bearing every interference with impunity, and others looking upon it as a *noli me tangere*. Some maintaining, that slit- ting up the womb is an operation seldom required, and others, that it is very useful in many complaints, and is a justifiable operation when none other can be suggested. If the young practitioner strikes a medium between these extreme opinions, he will have a fair guide for practice, which he will find to tally with his own experience, if he be endowed with an average amount of common sense. It savors of presumption to recommend one's own work, but I will ask to be allowed to agree with a reviewer who stated, that the first two hundred pages of my work on Uterine and Ovarian Inflammation is the best introduction to the study of the diseases of women, because I have shown how they naturally spring out of menstruation as out of their physiological root, demonstrating that the study of menstruation, physiological and morbid, is the only key to unravel the complications of diseases of women. The present work is specially devoted to uterine thera- peutics, surgical and medical; for no department of medicine ex-

emphases better than obstetrics, that medicine is one and indivisible. If the physician-accoucheur has to decide problems of purely medical practice, he is likewise the surgeon of the female organs of generation; but in whichever capacity I address the reader, I disclaim all intention of reproducing all that has been said, rather wishing to embody the results of thirty years' practice, and to give the pith and marrow of uterine therapeutics. I must therefore ask the reader to bear with me, if I dilate on contested points, and sometimes treat slightly what he may deem important. Theory seldom encroaches so far on practice as to make practitioners rely entirely on one kind of medicine for the cure of a disease; but when it is a question of taking an account of our therapeutical stores, and of explaining to others their relative value under specific circumstances, it is advantageous to discuss each mode of treatment as if it were that on which we had to place our chief reliance; and I cannot help considering the repetitions to which it has given rise as advantageous, because it has enabled me to study uterine affections under various aspects, as they are constantly occurring in practice.

Books, however valuable, are much less so than actual teaching, and as, even in our best metropolitan hospitals, the means of studying diseases of women are still most inefficient, whoever wishes to understand them should, before settling down, spend at least one year in the Paris hospitals, which afford such large opportunities for studying the diseases of women—opportunities so generously placed at the disposition of all. It would be better still, to become dresser to some of the eminent physicians who particularly study uterine pathology, like Huguier or Bernutz, or be under those who do duty at the “Hôpital de l'Ourcine.”

On beginning practice, the young practitioner will find how different it is to watch disease in an hospital, and to assume the responsibility of a case: he will feel the difference between medical science and medical art, the difficulty of at first applying science to the good of his fellow-creatures. He will see how difficult it is to obtain a full knowledge of the circumstances of a case, for, instead of making it clear to him, the patient will often ingeniously evade his questions; or in her state of emotion, without meaning to deceive, she may say what is not true, so that he will be frequently led wrong, and his difficulty often increases in proportion to the degree of refinement of his patient: indeed, information

having important bearings on the case often comes out only after many interviews. He will find that some are "*malades tant mieux*," taking an unreasonably sanguine view of their complaints, while others consider every symptom so despondingly, that they fully deserve to be termed "*malades tant pis*." He will find that, until forced to remain in bed, many young women will never own they are ill, partly from bashfulness, partly from a fear of being bothered and made to adopt precautions, while those who have passed forty are often prone to exaggerate occasional indispositions, being led to do so from overrating the dangers that accompany the change of life. Different patients give us quite an opposite character, because they make us, to a certain extent, different from our usual selves. The cold, suspicious manner of some so paralyzes us, that it requires a strong mental effort to plan their mode of treatment; while the open and confiding manner of others magnifies to a tenfold degree our power of curing them. So much for the patient: as for the doctor and his chances of success, he may have many good qualities, but unless he combine firmness with gentleness he will not get on. If rough, he will frighten his patient; if weak-minded, she will despise him. He should be married, or many will deny him the right to know any thing about women, and he must allow himself no eccentricities of dress or manner; for, in the estimation of women, no amount of genius will excuse the eccentricities of an Abernethy. His behavior to his patients should be quiet and expressive of sympathy, which will not be less acceptable from being tinged with seriousness, and, unless he be kind, he will be unable to bear with their caprices, despondencies, and mental infirmities, during the course of chronic disease. Melancholy looks make a patient feel worse; a cheerful face is a good tonic; but one must laugh little *with* patients and not at all *at* them, for, however ridiculous their fancies may be, they must be reasoned, not laughed out of them. He should not only be quiet in manner but also in voice, which should never be loud and boisterous. He should be cool and collected, even when he has only ten minutes to give a patient, for a hurried speech and manner would flurry her, make her forget what she most wished to ask, and render her dissatisfied with the visit. Extreme neatness and cleanliness in all minor operations, and in the dressing of local complaints, can only be attained by practice. It is of the utmost importance, however, to strive to attain this neatness—for

patients, however rich, will not pardon large stains being made on their towels or personal linen, and are apt to consider them a proof of a want of knowledge as well as of dexterity and practice. It will be obvious that, if there be the slightest suspicion of an ulcer being syphilitic, the speculum should be very carefully washed with a solution of permanganate of potash or of caustic potash. Few know the importance of a first visit—how women, suffering from uterine complaints, have thought it over, what consultations have been held about it with friends and relations, and how many months or years of suffering it has taken, to bring them to seek this first interview, which will decide whether the patient can have confidence in the doctor. How is confidence to be inspired? An eminent consulting-surgeon, now making a large fortune, assures me that a solemn, oracular manner, and monosyllabic answers make most impression on his patients. Much as I value his friendship, I believe that a minute and logical investigation of the facts of the case, is the safest plan, and that the best way of convincing a patient that one is master of the case, is to take the trouble of explaining it, so that she may leave the consulting-room, convinced that her complaint has been better understood than heretofore, and by one who is anxious to cure her: a frame of mind eminently calculated to give efficacy to treatment. Another secret of inspiring confidence is to be hopeful. It is the greatest consolation attached to an arduous profession, that we can conscientiously pass our lives in raising the hopes of sickening despondency. It makes amends for the fatigues, the perils, the ingratitude that must be encountered, to be able so often, by a word, to dispel fear and restore a family to happiness. With rare exceptions, of which cancer is a prominent example, those who treat diseases of women may deal largely in hope, and I feel my duty is not well done toward a patient, if she leaves me without believing that cure is certain, though it may be delayed. One great advantage of experience is, that it teaches us hope, for in those early days of practice, when it made me blush to receive a guinea, if I met with cases where the best treatment produced little or no good, I lost courage, and I infected the patient with my own despondency; but now that I have repeatedly seen such patients recover, if their courage can be kept up, so as to make them persevere with more or less active treatment, during one, two, or even three years, one is justified in instilling hope as the

best way of working cures. The hope that is held out will, of course, be proportionate to the nature of the disease and its duration, or the practitioner's reputation will be seriously damaged. Should inflammation of the womb, for instance, occur after the change of life, it would be wrong to promise a speedy cure, for the repair of diseased tissue then proceeds at a slower rate than usual. When extensive ulceration of the cervix occurs during pregnancy, a cure should not be promised till after childbirth, and the patient should be warned that the disease makes her liable to miscarry; otherwise a miscarriage will be attributed to any treatment that may have been judiciously instituted to keep the disease in check. If a case has lasted for many years under very unfavorable circumstances, perhaps long undetected, and then inadequately treated, it would be the height of presumption to promise a speedy cure, for long treatment may be required before making a decided impression on the case. When a farm has gone out of cultivation, the farmer has to begin by weeding and cleaning the land, and he knows a long time may elapse before he can get an adequate return for his labor, however certain he may feel that he will ultimately do so. In like manner, with cases of long standing, we should tell the patient or her friends, that, however sure we may feel of ultimate success, it may be long delayed; and that, while convinced of the efficacy of surgical treatment to cure local affections, we cannot be answerable for the impediments thrown in the way by the patient's bad constitution, the result of inherited predisposition, or of adverse vital influences. Thus, a confirmed cachectic state of the system will sometimes impair the utility of surgical treatment, the uterine mucous membrane participating in the unhealthy condition of the other mucous membranes, so that, for instance, the application of a solution of nitrate of silver to the excoriated cervix will only give temporary relief. Cases are occasionally met with, in which congestion or subacute inflammation of both the body and neck of the womb has lasted for a long time; the cervix is exquisitely sensitive when touched with the finger; pelvic pains are severe, and nervous symptoms singular and numerous. In these instances of "irritable womb," the ulcerated state of the cervix suggests the utility of applying a solution of nitrate of silver, but while, in some cases, the result is very satisfactory, in a limited number, apparently similar, surgical treatment does more harm than good, and it is necessary to post-

pone it until inflammation of the body of the womb has yielded to other measures. Such cases can only be found out by actual experiment, and cannot be allowed to invalidate the common-sense precept to cure all tangible, all visible lesions, in hopes of curing, by so doing, the deeper-seated lesions. In the treatment of chronic affections of the body of the womb, I do not know a more difficult task than to buoy up the hopes of patients reduced to despondency by repeated relapses. It can only be the result of great faith in the powers of Nature and in one's own skill, combined with implicit confidence on the part of the patient. Like other important sets of organs, the sexual sometimes acquire the habit of more or less serious suffering, and, as the system accustoms itself to bear with comparative impunity the habitual outbursts of disease, so the mind adapts itself to a life of disease, sometimes losing hope, and ceasing to strive after health by an earnest struggle of the will. Thus is lost a great help to recovery, for the mind is almost omnipotent over the body.

The art of interrogating female patients, so as to derive the greatest amount of information without hurting their feelings, is no easy matter. In the first place, a general always puts the sun in the face of an enemy, so should the practitioner always let the light fall upon the face of his patient, where, as on a map, is often traced the outline and character of disease—one look often better enabling him to unravel its manifold complications, than many a prolonged inquiry. The patient should be allowed to begin the account of her illness in her own way, and it is worth while listening patiently to a long, rambling tale, as it will certainly afford some hints, and to a great extent give the practitioner the measure of her mind.

After listening patiently, the practitioner will then have his turn; and, according to some method of his own, he should take a general survey of the principal functions, the nervous system, sleep, the heart, the phenomena of circulation, the appetite, the digestion, leading to the inquiry of whether the bowels are regular, and as a sequence, "Is every thing else regular?" If the reply be "Yes," then should be inquired, "If regular every month?" "If to the usual amount?" "If there be much pain?" By this mode of inquiry we can generally obtain the necessary information, even from the young and the unmarried; for, as they are not ashamed of having lungs or a heart, they feel at home with the


doctor by the time he inquires into the state of the bowels and their regularity, which naturally leads to those questions respecting the uterine functions; whereas, if these last had been abruptly put in the first part of the interrogation, the patient would probably have been flurried, and the doctor annoyed by unsatisfactory answers. If, instead of neglecting those indications which would help them to unravel the entangled skein of morbid actions, medical men were more particular in their inquiries respecting the menstrual function, they would more frequently establish their fame by the recovery of the patient's health. In answer to the usual question, "Is every thing else regular?" how often have I received an affirmative answer from a girl or her mother, when, on further inquiry, I found that the menstrual flow was either painful, profuse, or scanty. Sometimes, indeed, a patient has assured me that it "was quite regular," "so regular that it returned every fortnight or ten days;" while another, on the contrary, will affirm that "it was never regular, because it returned every three weeks." We must, of course, be prepared to answer any questions, but it would be the height of indiscretion to put leading questions to patients on indelicate subjects, such as connection, for instance; for this is almost impossible in acute cases, and seldom does harm in chronic.

Should the symptoms indicate some inflammatory condition of the womb, injections and other appropriate treatment can be ordered, without an accurate examination, as these remedies may suffice to cure the complaint; but should an examination become necessary, the reasons should be stated simply but firmly. The failure of repeated courses of tonics, even when combined with the use of vaginal injections, for weeks or months, will appeal to the good sense of the patient, and the assertion of the impossibility of knowing what is best to be done without more precise information, will impart the clear conviction of its being her duty to submit to an accurate internal examination; and the higher the rank, and the more virtuous the patient, the less trouble will be found in making her understand the urgency of submitting to so disagreeable a necessity. While laying a painful duty before his patient, the medical attendant, to whom so much is confided, should at least show by his manner that he feels for her; if not, the patient, though she may respect his talent, will deem him incapable or

unworthy of comprehending, the moral sufferings attendant on what was conceded to stern duty.

It is often said that, for our own protection, we should never examine a patient without the presence of a third party. I have taken a different estimate of woman's sense of honor, and, during a long course of practice, have never had to repent of trusting her. The generality of consulting physicians adopt the same line of conduct, in London, Edinburgh, and on the Continent. The amount of confidence shown to the profession by women in this respect, varies extremely, but I may safely say, that it is greatest in proportion to their rank and mental culture; for while women of the lower and middling classes have not this delicate perception of implicit trust, those of the higher feel, that they can rely on the honor of gentlemen, and are generally of opinion that it is sufficiently painful to submit to an examination, without having the additional annoyance of its being witnessed, even by a mother. The best plan, therefore, is to let patients do just as they like, without objecting to, or requiring, the presence of a third party.

It is, of course, in the power of an unscrupulous woman, to try and extort money from a practitioner, who may have examined her alone, by attacking his reputation; but when it becomes a question of protecting one's self against women capable of perjury, it may be easier to do so against one than two. A jury refused to believe that a practitioner of high reputation had criminally used a patient, although she swore to that effect, but a verdict was lately given against a clergyman because two women swore that he had abused one of them, and nevertheless, it was afterward proved that both women committed perjury. The practitioner must bear in mind, that to become an object of interest, is an innate and characteristic feeling of the female mind; and if, in early life, this feeling, in its natural and legitimate form, has been thwarted or disappointed, it may deviate into some other channel; and the ruling passion be displayed in attempting to excite pity and commiseration, where she cannot excite love. When uterine affections have induced hysteria, we should constantly remember, that the utmost duplicity and cunning have been occasionally displayed, where, from mere appearances, we should expect nothing but the most rigid truth, and that the whole energies of the patient's mind may be bent on deception. Hence, in confirmed hysterical affec-



tions, the symptoms generally become more numerous and urgent, in proportion as the patient receives more sympathy. A still more surprising fact is, that a woman has been known to keep a journal, in which she wrote down circumstantial details of imaginary criminal intercourse, as having actually taken place with one of those with whom she associated on terms of simple friendship. All this is very sad, but it only shows that the medical profession, like others, has its dangers.

Whether it be right to examine unmarried women is a question that has been asked, and I have no hesitation in saying that it is certainly our duty to do so if they cannot be cured by other means. No doubt married life increases the liability to inflammatory affections of the womb, but it is admitted, by all authorities, that the unmarried may be attacked with every form and variety of uterine disease, and may suffer quite as severely as their married sisters. The question then is, whether we are justified in making a digital or a specular examination, when we believe a virgin is suffering from disease of the womb that cannot be otherwise cured? Undoubtedly we are, but fortunately such cases are comparatively rare. They are met with in those who have lived a sickly childhood, have had worse health since puberty, and who always suffered from dysmenorrhœa till other symptoms gave evidence of the existence of uterine disease. These women are predisposed to uterine irritation, which repeatedly passes into inflammation. Of eight cases of relapsing chronic uterine disease that I am now attending, seven are single women. In the treatment of uterine affections in the unmarried, it is clear that all topical applications should be postponed, until time has fully shown that constitutional treatment is of no avail; but to assert that virgins are to be left to endure the misery of interminable disease, rather than try the only means that can restore them to health, is both illogical and cruel. It seems absurd to ask, whether the coincidence of hysteria with uterine inflammation, should prohibit its treatment by surgical measures, for it is an opinion entertained by many, ever since the days of Hippocrates, that hysteria is frequently caused by uterine disorders, and I sometimes find that hysteria disappears when the uterine affection is cured. Neither should I have mooted the question, if it had not been publicly stated by Dr. Robert Lee and Dr. Francis Ramsbotham, at a trial at Chester, that the use of the speculum should be discontinued, if hysteria supervened in the

course of the surgical treatment of uterine disease. Having thus come to the conclusion that an examination is necessary, it remains for me to state in the next chapter how it ought to be made. It is well to respect the feelings of women, and to delay an examination, until the menstrual period has completely ceased; but when the flow lasts too long, is too abundant, and seems to depend upon some morbid condition, complicating menstruation and independent of it, the examination should not be delayed, and the diagnosis may even be facilitated by the lower position of the womb, and by the more patulous state of its mouth.

Menstruation in relation to hygiene and pathology will frequently come under consideration, but this is a fit place to mention the bearings of this important function on therapeutics and surgery. The first question that arises is, whether it be necessary to suspend the administration of certain medicines during menstruation? The rule is, to leave off all medicines at the menstrual periods, and if it be desirable to interrupt a course of medicine, it is a convenient time to do so; but I have not found any inconvenience from letting patients continue a course of steel or quinine during menstruation. It is best to stop the exhibition of the mineral acids, although I have known them to have been taken at those periods without checking the menstrual flow. In ordinary cases, it is commendable to advise patients to leave off injections, but if it be a question of a long-standing case of uterine inflammation, with a great tendency to relapse, it is better to let the patient use the customary injections on the third day of the flow, provided they be used warm. Occasionally I advise their use during the whole course of menstruation, and with marked advantage. All surgical operations on the sexual organs, or on any other part of the body, should be postponed till a few days after the period, so as to avoid the chance of checking the flow. Mr. Paget admits the propriety of adopting this rule, although his own experience seems to show that its utility may have been exaggerated. "I have seen," says this eminent surgeon, "no mischief occur in the few cases in which, by oversight or by necessity, I have operated either directly before or during a menstrual period. The cases have not been many, but in none of them has any mischief ensued. Not unfrequently the occurrence of the first menstruation after an operation is attended with much more discomfort than the patient has commonly endured; and in those who are subject to menstrual

distress, symptoms of general disturbance, enough to excite alarm, may be associated with it. The probability of the advent of menstruation is therefore always to be considered in the case of anomalous symptoms after operations. And it may be well to mention that, after operations on the genital organs, it is by no means rare for the next menstruation to occur some days earlier, than, in the ordinary course of events, it would have done.

“As with menstruation, so, much more, during pregnancy, I should not willingly operate. And yet, with the exception of the danger of producing abortion, I know of no facts that would imply a greater than the average risk; and, if we may suppose a similarity between patients pregnant and those recently parturient, we may believe them comparatively safe. The repair of a rent perineum is as good an example of the healing of a bruised and lacerated wound as we could well find. And, altogether, the recovery of the enormous majority of parturient women from a condition which, in many respects, is so like that which follows surgical operations, may prove them very safe subjects. However, on this point pure surgical experience neither is nor can be very large. We can only say that, while, on the one hand, it would be mere recklessness to operate on such patients without good cause, yet, if good cause for operating exists, they may be treated very hopefully.

“When women are suckling, they will bear operations with no more than the common risk that might attach to persons who may be in comparatively feeble health. The mere presence of lactation seems to have no bearing on the matter. But an exception must be made, I believe, for operations on the breast. I never did one, and, if I can help it, never will; and to this conclusion I should have come, even if I had not read of a case of fatal hæmorrhage from a breast, cut widely into during active lactation.”

There can be no doubt respecting the propriety of deferring active surgical interference with the womb, by sponge tents, pessaries, etc., until the subsidence of inflammation, in that organ and its surrounding tissues, has been ascertained by very careful examination. Half the accidents that occur depend upon the neglect of this precaution. Even leeches, applied to the neck of the womb, after having previously relieved the patient, will, on another occasion, cause great pain or flooding. They certainly determined acute peritonitis in a lady, who was suffering from

chronic internal metritis with pelvic peritonitis, for exquisite, long-continued pain set in, so soon as the leeches took, and I was obliged to remove them as quickly as possible. Another way of insuring the success of operations performed on any part of the sexual organs, is, to enforce complete rest during the week following the operation, if not for a longer period, however hearty the patient may feel.

It may not be out of place to remind the reader, that an experienced practitioner may quickly seize the salient indications of a case, so as to meet its actual requirements; but a full hour is required to unravel the intricacies of one that has lasted for ten years, and, even then, it is best to give a guarded prognosis, until he has ascertained how the patient responds to therapeutical agents, local and general; for he cannot possibly know a constitution until it has been tried by the touchstone of remedies. Notwithstanding the length to which I have written on medicines, I give few, and avoid, as much as possible, obscuring their effects by prescribing many at the same time. Ten or twelve active ingredients, in one mixture, neutralize each other; and, if the total affects the system, it is by the nausea it gives rise to. It is also often judicious to consult patients upon the non-essentials of treatment, so as not to render medicine unnecessarily disagreeable by the addition of syrup or some tincture that may make physic more repulsive in the estimation of some. It is not difficult to prescribe the average dose of any medicine, and the real practitioner is not afraid of giving large doses; but when he meets with exceptional constitutions and nervous subjects, who can bear neither large nor average doses, he tries very small quantities often repeated. Thus, a patient of mine is driven wild by insomnia and headache, from taking one-sixth of a grain of morphia, but gets a moderate amount of sleep from taking one-fortieth of a grain several times in the course of the day. It is well to order only a small quantity, not more than two or three ounces, to those who can bear very little medicine, as they naturally feel annoyed at having to pay for a load of physic they cannot take. In chronic cases, it is judicious occasionally to make a fresh trial of approved remedies suitable to the emergency. For instance, to a patient whose health has been broken down by uterine disease and pelvic abscesses, I have lately given one or two grains of morphia a day, with great benefit, for many weeks, although the same remedy

had been repeatedly tried, on several occasions during the previous ten years, by myself and by other practitioners, and had always disagreed.

To conclude: We must trust in Nature, and believe that an Almighty power is operating in the human frame, ever working to restore health by successive changes and renewals, having definite laws and successful issues, often erroneously ascribed to our remedies. Let our motto be that of the father of French surgery:

“JE LA PANSAY, DIEU LA GUARIT.”

CHAPTER I.

SURGICAL APPLIANCES, AND MODES OF EXAMINATION.

THE stethoscope enables us to measure mischief in the lungs and heart, but the uterine sound, the speculum, and other instruments, not only enable us to correctly diagnose many diseases of women, but are also the instruments required for their surgical treatment: it is therefore of the utmost importance to know how to use them well, for the double purpose. There are various modes of surgical examination; for it may be, 1stly, digital; 2dly, ocular; 3dly, intra-uterine; 4thly, the examination may be made through a dilated cervix; 5thly, the patient may be examined when under the influence of chloroform.

DIGITAL EXAMINATION.—No other mode of examination gives so many valuable elements of diagnosis; it is often the only examination required, and the only one that is not fraught with danger. With regard to the best mode of making the examination, practitioners are biassed by the position adopted, for the delivery of women, in their native country; but I am at a loss to understand how an examination can be well made, unless the patient recline on her back. In the great majority of cases, it is, therefore, perfectly unnecessary to place the patient on a table, as has been sometimes recommended. A table suggests an operation, frightens many, and effectually prevents others from seeking to be cured. A bed will do, but a hard sofa is better, particularly one that has no lateral lean-to. The patient's dress being loosened, she should be told to lie quite straight on her back, the head and shoulders being but slightly raised. I kneel on the left knee, to the right of the sofa, and having warmed my hands if it be winter, and seen that the nails are smooth and not too long, I gently pass the hand over the abdomen to ascertain its size, its suppleness and amount

of elasticity, and search for any abnormal growth. By so doing, I ascertain what amount of pressure the patient can bear without feeling pain, particularly in the ovarian and uterine regions. It is well to percuss the abdomen, to measure the amount of flatulence and the presence of serum in the peritoneal cavity. If the walls of the abdomen be thickly lined with fat, or if nervousness gives rise to involuntary contraction of the abdominal muscles, the examination will be facilitated by bending the thighs at right angles with the pelvis, and by conversing with the patient to divert her attention.

Bearing in mind the information thus obtained, the right index-finger should be well greased with oil, lard, or cold cream, for, notwithstanding the objection taken to those bodies, on the plea of possible rancidity, they are the best that can be used, for the soap and water that has been recommended will not protect the finger from fœtid discharges and cancerous secretions. As it approaches the vulva, the finger notices if there be external piles, or any thing amiss at the opening of the vagina, whether the hymen be present, if so, whether it be hard and fleshlike, or an elastic ring, and if the entrance to the vagina be tender and spasmodically contracted. The finger, when in the vagina, should successively press on the rectum and on the urethra, to ascertain if they be implicated, and having reached the neck of the womb, it is well to measure the vagina, asking one's self whether it dip down toward the coccyx, or run more in the direction of the axis of the pelvis? whether it be of normal temperature? short? deep? narrow? capacious? whether it contain any foreign body? if so, whether it be something inorganic evidently introduced, or an organic substance, benign or malignant, growing on the walls of the vagina, or on the os tincæ, or coming from the cavity of the uterus? Is the mouth of the womb open or closed, large or small? is the cervix too long, too pointed, too small, too large? is it indurated or ulcerated? is the body of the organ in its proper position? is it anteverted, retroverted, or flexed in any direction? is it larger or smaller than natural? is it of proper form and density? is it indurated? is it fixed or movable? is there any uterine fibroid or ovarian complication?

While the right index is gaining this information, the left hand should be gently but firmly placed over the womb so as to steady it, and measure its size and tenderness. If, in the course of this examination, one finds difficulties and unexpected complications, it

will be well to place one's self on the left of the patient, using the left index-finger for the internal examination, while the right hand presses on the hypogastric region. As it has been well put by Dr. Marion Sims, "The two hands then act conjointly in ascertaining the condition and relations of the uterus. Is it in its normal position? Then, the os uteri will rest on the end of the left index-finger, while the fundus will be distinctly felt by the other hand, in a line drawn from the os in the direction of the umbilicus. Is it anteverted? Then the os will be very far back toward the hollow of the sacrum, while the fundus will be felt by the index-finger just behind the symphysis pubis, pressing down upon, and perhaps parallel with, the anterior wall of the vagina. But the pressure of the index-finger on the anterior wall of the vagina is not enough to determine this point positively, so it is essential always to make pressure, at the same time, with the other hand, just above the pubic arch. It will thus be easy to measure the size and shape of the body of the womb, for it will be held firmly between the fingers of the two hands, and its outline and shape as easily determined as if it were a pear under the folds of a napkin." In my opinion, this is far too positive, and only holds good with thin, unirritable women, and when the womb is rather lower down than usual. It does not apply to women who are built on a large scale, with great width of pelvis, and the abdomen well coated with fat, and made bulky, if not pendulous, by repeated gestations. On the other hand, the womb is sometimes so high, that, with long fingers, I can scarcely reach it, and am utterly unable to twist the cervix right and left. If, in such cases, the young practitioner attempt to circumscribe the womb according to the instructions that I have quoted, he will find it impossible to do so, and if he remember Dr. Marion Sims's assertion, that the womb can be then felt "as easily as a pear through the folds of a napkin," he will think the simile very unfortunate.

Notwithstanding what has been said to the contrary, it is generally difficult to explore, in this way, the posterior aspect of the uterus. It may be attempted, by passing the left index-finger to the posterior cul-de-sac, hooking it up behind the cervix uteri, raising this upward, drawing it forward, and at the same time pressing the outer hand in the direction of the place of the left index-finger. In a thin subject, when the pelvis is shallow, it is often possible to detect whatever may be abnormal, but generally, this

mode of examination gives unsatisfactory evidence, and it is to examine by the rectum.

RECTAL EXAMINATION.—The root of the nail of the right finger, and that part of the digital pulp that is overlapped by the nail, having been well coated with soap, I kneel on the left side of the right of the patient, lying on her back, and I gently press the finger against the anus, which it enters without difficulty, if the patient be told to force as if she were at the closet. As only a few walls of the rectum intervene between the finger and the womb, any increase of size, or irregular outline, can be easily detected. Should doubts arise as to whether the detected growth be part of the womb or an independent formation, between the rectum and the vagina or on the peritoneal cavity, another mode of examination may clear up the difficulty.

DOUBLE TOUCH.—The patient should be placed across the bed and on her right side. The right leg and thigh being straight, the left limb somewhat flexed on the abdomen, the surgeon, standing on the right side of the bed, introduces the left index-finger into the vagina, and the right index-finger into the rectum, which enables him to measure the size, and to appreciate the nature of whatever abnormal may intervene.


PERPENDICULAR EXAMINATION.—The desire to save patients unnecessary annoyance often prevents our examining them in the upright posture; but we must bear in mind, that woman was made to stand upright, and I maintain that we have a very imperfect knowledge of the nature and extent of all uterine displacements, if we do not examine them in the erect posture; in some cases, even it is only by telling the patient to walk half a mile, before coming to consult, that we are able to take a correct estimate of the displacement, and of its connections with adjacent organs. In very rare instances, such as the operation to cure vesico-vaginal fistula or to reduce a displaced pregnant womb, is it necessary to examine a woman resting on her hands and knees.

OCULAR EXAMINATION.—In 1816, it occurred to Recamier, that ulcers of the womb might be dressed through a tube, inserted in the vagina, and the practice was soon adopted on the Continent. Although inferior in value to the digital, the speculum examination vastly improved the diagnosis of diseases of the womb, permitted some of them to be speedily and effectually cured, and gave to the study of diseases of women an impetus that has already lasted

fifty years, without showing signs of exhaustion. We are now so justly proud of being able to study disease, by means of the laryngoscope, the ophthalmoscope, and the endoscope, that it seems singular that the speculum uteri, for the study and treatment of diseases of the womb, did not speedily approve itself to the professional mind in this country; but it did not seem to have attracted any attention, until Dr. Balbirnie, in 1836, published a work on diseases of the womb, and, although it adequately showed the value of the new method, it attracted little attention until 1844, when Dr. H. Bennet published, in the *Lancet*, his papers on uterine pathology, which were republished, in a collected form, the following year. The eminent Obstetricians of Edinburgh and Dublin immediately adopted this additional means of diagnosis and of cure, but this sketch would be incomplete, if I did not add that, in 1850, meetings were held at the Royal Medico-Chirurgical, and at the London Medical Societies, with the avowed object of checking the adoption of ocular examinations for the treatment of uterine affections. Since then, prejudice has given way to reason, and the speculum is now in general use, and is by none more used than by those who first opposed it.

It would be useless to describe all the specula that have been invented in our time, or that found at Herculaneum, so I shall confine my remarks to, 1stly, the glass specula; 2dly, the lever; 3dly, the duckbill; 4thly, the bivalve; 5thly, the univalve speculum.

THE GLASS SPECULUM is, perhaps, the most used in this country; its diameter varies from half an inch to two inches, and the smoothness of its external coat of India-rubber, its high reflecting power, and the simplicity of its action, commend it to the beginner; it is the best for the application of leeches, or of a strong caustic. It is better to use a speculum with a bevelled extremity to meet an occasional emergency; for instance, an irritable fibroid on one side of the womb may be avoided by placing near it the shortest side of the instrument. I must, however, observe that whenever I have met with a medical man who undervalued the use of the speculum, it was a glass one he was in the habit of using; and if, inside the cervix, there happen to be an ulcer, it will be effectually concealed by the pressure of the circular rim on the lips of the womb. This will explain how, on the same day, the same patient might be told by one gentleman, that she has an ulcer in the womb, and by an-



other, that there is nothing the matter with it, according as the first practitioner used a bivalve speculum, and the other a glass tube. I have never found a glass speculum break in the vagina, nor have I read of such an occurrence; but this accident did occur to a friend of mine in the country—I cannot understand how, unless the instrument was in a very faulty condition. The patient was very much frightened, and had to remain without moving for several hours, while the doctor went for instruments and assistance, but there was no mischief done. On the occurrence of a similar accident, it would be well to pass the index-finger, to ascertain if it can remove the nearest fragments, and then to introduce a larger speculum, to protect the vagina as the fragments of glass are being withdrawn.

THE LEVER SPECULUM.—This is, perhaps, the best for general use; it is formed by two half-tubes articulated at the outer extremity of the instrument, so that the surgeon may, by turning a screw, divide the half tubes, display the cervix, and permit, sometimes, the separation of its lips, so as to exhibit that part of the cervical canal that is nearest to the os uteri. To withdraw the instrument, the screw must only be partially reversed, or it might firmly grasp a fold of the vagina, and the attempt to withdraw it would give intense pain. Should such an accident occur, the screw must be reversed so as to separate the half-tubes, then the vaginal fold would slip away, and the instrument be easily removed. Bearing in mind the possibility of this accident, Mr. Weiss has had the happy thought of paring away the opposite sides of the half-tubes, near their point of articulation, and, before using the instrument, one should ascertain that the parts freely play one upon another, or the patient will surely be jarred, if not hurt.

DUCKBILL SPECULUM.—Mr. Coxeter has lately modified the lever speculum, so as to give its extremity the resemblance of a duck's bill. This instrument has no wooden plug, and approximates to the bivalve speculum.

BIVALVE SPECULUM.—This requires great skill and practice, to be of service, but it cannot be dispensed with when morbid lesions lurk in the cervical canal. By adjusting the tips of the instrument within the lips of a patulous os uteri, it is possible to see an ulcer or a small polypus, which would otherwise escape notice.

UNIVALVE SPECULUM.—This instrument, invented by Dr. M. Sims, differs entirely from those just described. After it has been

introduced into the vagina, it is to be handed to an assistant, who forcibly raises the perineum, and allows the pressure of the atmosphere to distend the vagina, and to bring the os uteri into view. Dr. M. Sims advises this instrument to be used for the simplest forms of uterine disease, as well as for the most severe; but the profession will certainly reserve it for the latter. Indeed, most women would rather continue to bear the annoyance of chronic uterine affections, than, in presence of an assistant, submit "*to be rolled over on the front, in a left lateral semi-prone position, so as to simulate as much as possible the position on hands and knees,*" according to Dr. M. Sims's recommendation.

A SPECULUM FORCEPS with bent handles would also be required, and a uterine tenaculum.

UTERINE TENACULUM.—Simple ideas come late, and it is only recently that the idea of seizing one of the uterine lips, by means of a single or a double-pointed hook, so as to bring it into the right position, or retain it there, and prevent its getting out of convenient reach, has been introduced into uterine surgery. Before describing how to use these instruments, it behooves me to advert to two substances very useful as surgical applications.

COTTON WOOL.—Fine cotton wool is useful to remove mucus from the diseased surface of the womb, and to soak up the surplus of whatever liquid may have been applied by this means. It is often good to leave, in close apposition to the ulcerated os, a small dossil of cotton wool, tied round with a thread, so that the patient may be able to remove it before going to bed. The wool will imbibe whatever may still remain of the fluid used, and prevent its staining the patient's linen. The dossil will also absorb the blood and the increased secretion from an irritated mucous membrane; and, if a strong alkaline caustic has been used, the wool should be steeped in vinegar and water; or in a solution of carbonate of soda, if a strong mineral acid has been employed. Cotton wool steeped in tincture of iodine, and then dried, is sold as iodized cotton, and a similar preparation has been made with cotton wool and a strong solution of nitrate of silver; but these preparations are not so good as the more or less concentrated solutions of the same drugs, applied to the diseased surface of the womb.

GLYCERINE.—In the previous editions of this work, I demonstrated so fully the utility of glycerine, that I claim to have helped to introduce it into the British Pharmacopœia, by pointing out its

value as an ointment and a plaster, when boiled with starch. Dr. M. Sims has gone so far as to say, that there is no substitute for glycerine in uterine surgery, for it has strong affinities for water, and, even when the vaginal mucous membrane is intact, it draws away by endosmosis a watery fluid from the womb, and may thus be useful to reduce uterine congestion; it has also antiseptic properties. When applied to an ulcerated surface, it sometimes draws from it, and the subjacent tissues, the serous fluids to such an extent, that the patient may have to change the cloth several times in the day. Erosions and slight ulceration may be cured by repeating the application, which is also a valuable dressing in many cases of extensive ulceration, after the excision of polypi. There is no better way of using glycerine than that recommended by Dr. M. Sims, who says: "Take some fine cotton, as much as can easily be held in the hollow of the hand, immerse it in tepid water, and squeeze it gently under the water till it becomes perfectly wet, then press all the water out of it, and saturate it with Price's glycerine. To do this, lay the moistened cotton in the palm of the left hand, spread it out circularly for an inch and a half in diameter, more or less as may be needed, scooping it out in the centre, then drop half a teaspoonful of glycerine on it thus held, and rub it into the cotton with the point of the finger, then pour on a little more glycerine, and rub it in, and so continue till the cotton becomes saturated. When finished, the cotton should feel soft and pulpy, should be about an inch and a half in diameter, and about half an inch thick."

SPECULAR EXAMINATION.—The digital examination determines the choice of the instrument to be used and the position of the patient. Whatever instrument be used, to bring the os uteri in view, is the easiest or the most difficult object to accomplish. Nothing easier, if the vagina be of moderate calibre and the womb well placed; nothing so difficult, if the vagina be very lax and the womb much anteverted, retroverted, or lying diagonally across the pelvis. It stands to reason that a very small speculum should be used for a very narrow vagina, and a large one if the passage be much relaxed. If I find the womb well placed, or only moderately displaced, I arrange the patient on her back, the seat being well raised by a hand cushion and in full light. The left leg and thigh should be well flexed, and the right foot be rested on a stool placed on the floor to the right of the sofa. It will be obvious that, to

make any kind of specular examination, the clothes must be raised, but, before doing so, each lower limb should be covered with a large cloth or thin shawl, if the patient does not wear drawers, for no part of the body should be uncovered, except that requiring investigation. I then choose the instrument most suitable to the case, and kneeling on the left knee, to the right of the sofa, I separate the labia with the right index, and keep them apart by means of the left thumb and index; I then depress the perineum with the edge of the instrument, and gently push it upward as far as it will go, by a to-and-fro movement. If there be any difficulty, it is to be surmounted not so much by forcible pressure as by giving a rotatory movement to the instrument, if it be cylindrical, or by the to-and-fro lateral distension of the vagina. When the instrument has reached a sufficient depth, if the os uteri does not present, it must be sought for, by changing the position of the speculum, or by turning the screw of the instrument, so as to widen the field of vision. If the mouth of the womb be patulous, it is better to use the bivalve speculum, so as to be able to evert the lips of the womb, by means of the tips of the instrument, and thus display part of the cervical canal. It is better to examine the patient on her left side, if there be considerable uterine displacement, as, for instance, when the womb is so retroverted that the os uteri is behind the pubis. I have already stated the univalve speculum to be unsuitable for the common run of uterine surgical cases, although invaluable for some serious operations, such as for the cure of vesicovaginal fistula.

THE UTERINE SOUND.—Recamier used a probe, to study the deep-seated diseases of the womb, and a curette, to remove from its internal surface small polypi and fungoid granulations; but it was Sir J. Simpson who invented the uterine sound, and taught its great value as a means of diagnosis. The instrument is too well known to need description, and is often made of an unbendable metal, to which is given an exaggerated curve. Were it necessary to adopt some particular shape, I should prefer Huguier's sound to Simpson's, because it takes the natural direction of the womb, and has no exaggerated curve. The instrument should be made of German silver or annealed copper, to admit of its being bent to suit the peculiarities of the case. It should be seldom used to replace the womb, but as a means of diagnosis; and I again caution the profession against using this instrument in any other way, or

without very great care; the same advice is given by Scanzoni, P. Dubois, Bernutz, and Dr. M. Sims. It must be borne in mind, that pregnancy is so easily overlooked or mistaken for a morbid affection of the womb, during the first months of gestation, that precision of diagnosis may be purchased at the expense of abortion. This occurred twice to Nonat, once to Huguier, once to Valleix; and, as for one medical man gifted with the moral courage to own a mistake, it may be safely said, there are many who keep it to themselves, so doubtless abortion has not unfrequently been unwittingly brought on, since the uterine sound has been popularized, particularly when we remember that it is easy to confound early miscarriage with profuse menstruation. Aran told me, that, on one occasion, after introducing the uterine sound into the womb, although using it cautiously, he felt that he had perforated the womb, and that the uterine sound had penetrated for several inches into the peritoneum. Slight colics occurred, but no other symptom. A similar accident occurred to two other eminent practitioners, without giving rise to any bad symptom. The immunity from peritonitis, in many cases of gastrotomy, for the removal of enormous ovarian tumors, enables one to understand why the perforation of the peritoneum was in some cases harmless; but it will not do to rely on similar results in other subjects, and these facts are calculated to impress prudence. In Dr. Broca's case, the use of the uterine sound caused death by peritonitis, and Huguier had a similar fatal case. Severe uterine colics, menorrhagia, and peritonitis, may occur from the use of the instrument in experienced hands, and fatal would it be, if handled by those who know little of uterine disease. After using the uterine sound, it is well, in most cases, to prescribe twenty or thirty drops of laudanum, to be injected into the bowels, with a little milk.

By means of the uterine sound, we can measure the length of the cervix, the calibre of its canal, and the seat and character of any stricture that may be present; we can also measure the capacity of the uterine cavity, for the fact of its being much larger than usual suggests its distension by fibroids or as a result of defective involution, while the direction assumed by the instrument enables one to distinguish ovarian from uterine tumors, and to make out to what extent the womb forms part of a large abdominal growth. I generally use the sound after having brought the os uteri in view; it should be warmed and gently introduced, or it will

set up spasmodic contraction of the circular fibres of the cervix, and render it more difficult to overcome the contraction of the os internum; gentle, steady pressure enables the instrument to pass, and, if the os internum be wide open, it is a sign that the body of the womb is more or less diseased. When this examination is made, in the gentlest manner, by an experienced surgeon, he can seldom help giving considerable pain, and causing loss of blood; for this reason, and because, in the generality of cases, wax bougies are just as useful as the uterine sound, I recommend their general use; but, before saying a few words about them, I shall allude to the uterine curette, which is another kind of uterine sound, scooped out on the concave side of its extremity. This was used, by Recamier, in some cases of flooding, to remove the fungoid granulations from the inflamed lining of the womb. Like several of Recamier's pupils, I have checked flooding, by this means, without any ill effects, but now I rather depend upon intra-uterine injections.

WAX BOUGIES.—A dozen wax bougies, of different sizes, should be always at hand, for they pass through strictured passages with peculiar facility, and I have often been able to pass one through the cervix, when I could not pass a uterine sound of equal calibre. With the wax bougies, the practitioner can scarcely do harm, for, if they cannot pass the stricture, they bend and are expelled, whereas, the uterine sound is a dangerous weapon in inexperienced hands. In most cases, the sound does not give information so accurate as the wax bougie, for it takes the cast of the internal uterus, showing its position, and the amount of flexion of the cervix. The withdrawn bougie will also show the seat of stricture, and its amount is often demonstrated, by the wax bearing the impression of concentric rings.

DILATATION OF THE CERVIX.—Dr. Mackintosh's idea of dilating the cervix uteri has been adopted for the treatment of many other complaints beside dysmenorrhœa. It is right to dilate the cervical canal, when its narrowness prevents the ascent of the semen into the womb, or leads to the retention of the menstrual fluid, and to the formation of clots, which cannot be expelled without great and protracted pain. The same operation is required, whenever the cervical canal does not afford free egress to the mucus and matter secreted by the lining membrane of the body of the womb, in cases of internal metritis, or to the membranes which it exfoliates. I have shown, by clinical illustrations, in the third edition

of my work on "Uterine and Ovarian Inflammation," that this is a fundamental principle of the treatment of internal metritis, and that chronic inflammation in the womb can never abate, if its internal membrane be continually distended by retained fluids. Indeed, dilatation of the cervix is the indispensable preliminary of all surgical interference with the diseases of the body of the womb, for, without having done so, it is imprudent to inject any fluid, or to scrape or cauterize its internal surface. Dilatation enables the accomplished surgeon to pass his finger over the inner surface of the womb, and to remove polypi that could not otherwise be attained.

Dilatation must not be attempted until inflammation of the cervix has been subdued, and until that of the body of the womb has become passive; and it is only by supposing that Dr. M. Sims overlooked these conditions, that I can understand his having thrice seen metro-peritonitis follow the gradual dilatation of the cervix for the relief of uterine stricture. While thus asking us to believe that the gradual dilatation of the cervix is a dangerous process, this distinguished surgeon wishes us to admit that no serious results are to be feared when the cervix is so rapidly dilated as to permit, in a few hours, the passage of the index-finger. If the first mode of dilatation be dangerous, the second is more so, although quite justifiable for the diagnosis and cure of internal polypi, and of intractable disease of the uterine cavity. The only bad results that I have observed to be caused by the gradual dilatation of the cervix are, uneasiness, uterine pains, an increase of mucous discharge, a little loss of blood, and the advance of the menstrual period. Having seen no other evil results follow dilatation, I do not side with those who represent this process as dangerous, and the slitting up of the womb free from danger. After introducing the speculum, I pass a bougie into the cervical canal, and, if a small one be very tightly held, I cut away part of it, and the next day I remove the part left in the cervix, if it has not been already expelled. I then take a small sponge tent, rub it well with sand-paper to prevent it slipping out of the cervical canal. I then fix the tent on the bent extremity of a stilet, and introduce it into the cervical canal, so as to place it out of view, for if it be left only half introduced, it would soon fall out and be of no use. On attempting to insert the sponge tent, it frequently occurs that the womb shrinks from manipulation, placing itself so as to render the

operation impossible; it is better then to seize one or the other lip of the womb with the uterine tenaculum, until the tent has been introduced. The slow dilatation of the sponge, under the influence of capillary expansion, overcomes the resistance of the cervix, and effectually dilates the canal in which it is introduced, without irritating the mucous membrane. The sponge should be allowed to remain for twenty-four hours, when the patient, herself, can easily withdraw it, by means of a small piece of silk or thread, which should be fixed to it, and left sufficiently long to protrude externally. The expansion of the sponge is usually unattended by pain, but sometimes the patient suffers slightly, or feels as if something were being forcibly passed through the womb. If the sponge be allowed to remain more than twenty-four hours, it is generally expelled spontaneously into the vagina, apparently by the pressure of the mucus naturally secreted above the point where it lies. If, however, it be introduced very far into the cervical canal, so as to admit of the os closing over it, it may be retained and require extracting, especially if the string break, as sometimes happens. When the os uteri is much narrowed, and very small tents are introduced, the use of a speculum cannot well be avoided, as the warmth of the vagina softens the tent or its point, before it can be passed into the os. When the os is more open, and a larger tent can be employed, the speculum is not absolutely required, as it can then be easily introduced, with the assistance of the director or of a stilet, the patient lying on her left side. The first tent will probably only pass a quarter or half an inch; but each time a new tent is inserted, it penetrates further, until the entire cervical canal can be dilated. As I only introduce the tent every second, third, or fourth day, in order to prevent too much irritation, the interval between two menstrual periods is generally required thoroughly to dilate the canal. The day the tent is withdrawn, as there is generally a certain amount of mucous discharge, I recommend a quantity of tepid water, or an astringent solution, to be gently injected into the vagina, to allay irritation. The os and cervical canal being mechanically opened by the tent, after its removal, injections should be used at first with great care. I have known uterine colics occur, apparently from the injected fluid penetrating into the open os. By thus progressing carefully, ascertaining occasionally the state of the parts by instrumental examination, and suspending the dilatation if any irritation of the mucous surface be

produced, the cervical canal may be efficiently dilated in the course of two or three weeks, without any local injury whatever.

In a certain number of cases of dangerous intra-uterine disease, generally associated with flooding, it is necessary largely to dilate the cervical canal. In such instances, this passage is usually more dilated than in most women, so there is little difficulty in the introduction of a tent, and, when it has remained ten hours, it should be replaced by another, to be retained the same time, and, on withdrawing it, the finger can pass into the womb; for this purpose Dr. M. Sims recommends us to "place the patient on the side as for its introduction; apply the speculum, and immediately we shall see the sponge projecting from the cervix, and considerably dilated. It will be saturated with a fetid, serous, or sero-sanguinolent discharge, which is to be carefully wiped away. After this, fix a pair of spring-forceps firmly on the centre of the sponge, for the purpose of removing it. Then let the patient turn over on her back, with the forceps still fastened to the sponge. Now pass the left index-finger into the vagina along the locked blades of the forceps, till it comes in contact with the sponge. The sponge is not to be suddenly and quickly withdrawn, but it is to be pulled gently, first to one side and then to the other, taking care, at the same time, to support the uterus with the index-finger, which is to be gently carried into the cervix by the side of the tent, first on one side and then on the other, to free its meshes or interstices from the cervical mucous membrane, which interlocks, as it were, with the substance of the sponge. When the sponge has been well loosened all round, and is found to slip down a little, then the practitioner should be ready to thrust the finger up into the cavity of the womb, as he pulls it away. If the finger does not pass at once and easily, it is better not to use much force, but, as before stated, to wait for another opportunity. The removal of the sponge is always followed by more or less flow of red blood, showing a laceration of tissue. The sponge may pass the os externum with tolerable ease, and still not be able to pass the os internum, and here it is better to procrastinate a complete exploration than to use an undue degree of force. But if the second joint of the index pass the os externum, the point of the finger is already in the cavity of the uterus; and then, while he presses the finger onward and upward, he should make a counter-pressure with the right hand just above the pubes, grasping the fundus of the uterus

through the parietes of the abdomen, and forcing it down on the end of the left index, as he would push a thimble down on it. Were it not for this outward counter-pressure, the uterus would necessarily be pushed upward before the index, and we should seldom reach the fundus. There are good reasons for placing the patient on the side, and using the speculum for inspecting the sponge before its removal." Dr. M. Sims thus specially warns the surgeon against the temptation to remove the sponge while the patient is on her side. "1st. Because if the sponge be removed under these circumstances, with the vagina widely open, the air rushes into the cavity of the uterus, and, I am sure," he says, "that, in my early experience, I had the misfortune more than once to see metritis follow this accident. 2d. Because the finger cannot be passed far enough into the uterine cavity for a thorough exploration, unless the external counter-pressure be made with the other hand, which is neither easy nor effectual in any other position than the dorsal."

Having thus explained the two modes of dilating the cervix, a few words respecting the means of effecting it will not be out of place. It was Sir J. Simpson who substituted sponge tents for the metallic bougies of Dr. Mackintosh, and I do not think we can use any thing better than sponge tents, varying in length from half an inch to two inches, coated with cocoa-butter, to every ounce of which is added one drachm and a half of pure carbolic acid, as suggested by Dr. Ellis, to prevent their becoming fœtid. Dr. Ellis wishes the tents to be made fusiform, and objects to the conical shape given to them, because it facilitates their expulsion; but this objection only holds good when the tents are carelessly introduced. Dr. Aveling has prevented sponge tents becoming fœtid, by charging their inner canals with about two grains of finely-powdered permanganate of potash; but Dr. Ellis's idea is the simplest. Dr. Sloan originated the sea-tangle tents, which slowly swell to nearly three times their size; they are very suitable for narrow strictures, and Dr. George Gibbs, of Dublin, has thought of a way of using them that promises to facilitate the rapid and extensive dilatation of the cervix. After introducing an ordinary-sized tent, he passes a similar one alongside of it; then another and another, till seven or eight have been introduced. The dry root of gentian also admits of being cut into the appropriate form and does well; ivory, softened by chemical agency, is likewise

used in France, and, in twenty-four hours, it swells to double its size. Dr. Emmet, of New York, thinks very highly of sponge tents, as a means of applying methodical pressure to the tissues of an hypertrophied womb, and goes so far as to say, that they do more good in a week than three months of any other treatment, so the plan deserves a fair trial on this side of the Atlantic. The sponge tents seem to soften the tissues of the cervix and to reduce their bulk, the pressure destroys fungoid granulations of the cervix, mucous polypi; and even a fibrous polypus, as large as a pigeon's egg, has, in one instance, been thus destroyed.

EXAMINATION UNDER CHLOROFORM.—I value chloroform so highly, that it pains me to know that it is used unnecessarily to facilitate the introduction of the speculum in young unmarried women. I have never done so when the cervix was alone affected, for I have always found that, with care and patience, I could use a small speculum without chloroform. When, however, I am convinced that the body of the womb, and more particularly its lining membrane, is the seat of disease, which is always the result of long-continued morbid action; after having fairly tested the patient's tolerance of uterine interference, instead of pottering on for months with ordinary treatment, I have placed the patient under chloroform, and made a searching intra-uterine examination, injecting the uterine cavity by means of a double-current injection syringe, which Mr. Coxeter has made for me, using a solution of nitrate of silver, perchloride of iron, or tincture of iodine, if the mucous membrane be found diseased. This should be done with the help of an assistant, while another administers the chloroform.

CHAPTER II.

UTERINE DIETETICS AND HOME TREATMENT.

By home treatment of the diseases of women, I mean hygiene, nursing, and those minor surgical remedies, which are of such great use, that, when well carried out, they cure most of the complaints that women are specially subject to; and without these measures being well carried out, tonics and local treatment are only partially useful. This regimen comprehends many observances and restrictions, and it is not surprising that patients neglect them, more or less, so soon as the pain abates: for, on the disappearance of pain, the most sensible women become convinced that a hidden complaint is cured. When told that there still remains considerable enlargement and displacement of the womb, and that the slumbering disease will soon wake up if precautions be neglected, they are incredulous, neglect advice, and meet with relapses.

I may be thought guilty of a truism in saying that a *home*, a place of permanent rest for both body and mind, is most conducive to the recovery of chronic uterine diseases; and although it may be thought advisable that a lady should leave, for a time, her household duties and half a dozen children, to have advice, treatment, and rest, for six weeks in London lodgings, it is as true in medicine as in poetry, "there is no place like home." I have frequently seen the good effects of treatment interfered with, by the worry and fatigue of hunting for lodgings or of changing them. It is still worse for invalids to go on a visit to friends, or to have staying company, for they cannot then do as they like, or fancy they cannot, which is almost as bad, and thus they over-exert themselves and neglect treatment. It is very natural for those who are left alone, to regret that they have no fond mother or

sister to minister to their happiness, and it is not offering them great consolation to say, that they might be still worse off with injudicious relations and friends. Some mothers, who have been blessed through life with uniform good health, are annoyed at their daughters suffering from internal complaints, look upon it as a kind of personal affront, and object to their resting the feet and taking other precautions, as things never thought of, in their younger days. The indiscretion of friends is proverbial. Those who would scruple to direct you to find a street unless they knew it well, will have no hesitation in unsettling a patient's peace of mind, by the more or less strenuous advocacy of exercise, of stimulants, of some medicine that did good to somebody else, of change of air, or of doctors. I shall briefly treat of, 1st, Rest and Exercise; 2d, Diet; 3d, External Appliances; 4th, Injections; 5th, Baths.

REST AND EXERCISE.—In acute affections of the womb, particularly if the peritoneum be at all compromised, patients instinctively lie down, and only leave the bed for the sofa. Formerly, those suffering from even a moderate amount of inflammation of the womb were kept in bed for months—a very objectionable plan; for protracted recumbency greatly reduces the heart's power, and therefore weakens the system. Moreover, want of fresh air and exercise impoverishes the blood, increases dyspepsia, constipation, nervousness, and thus does more harm than good to the uterine disorder. It is always useful, and sufficient in most cases of disease of the womb, to rest on the sofa, for two or three hours, before or after the lunch or early dinner. The utility of the recumbent posture should be explained to the patient, by exhibiting the diminished size of the veins of the hand when held up, compared to their more enlarged size, on holding them down. Patients prefer resting on the sofa after a late dinner, but I make a point of this being done in the middle of the day, for it makes a break in its fatigues, relieves for a time the fulness of pelvic congestion, and thereby diminishes the backache and other symptoms. Those who suffer much from uterine disease, instinctively assume the American attitude of repose, in which the lower limbs are placed higher than the pelvis; and several patients of mine, who have suffered much from complicated pelvic inflammations, have the bed made after this fashion. A lady, with a very large retroverted womb, was advised to remain always in bed, the knees

being supported by an inclined plane; but this so increased the back pains, that the plan was soon abandoned, and the patient allowed to repose as she liked. It may be mentioned that lying on the belly, for a year or more, has been recommended by high authorities, as the best means of curing retroversion of the womb, while anteversion was pronounced curable by pertinaciously lying on the back. One of the first questions that a patient asks is, "Am I to walk?" Many have tried to walk off the back-pains, others instinctively shrink from doing what increases pain, but are so pestered by relatives, that they give in. The decision of the question may be generally based on the patient's sensations; if walking so increases pain that its excess does not abate soon after rest, it is a sign that she has walked too much. Moving about in a level suite of rooms should be the first step to recovery; the patient may soon do so, for five or ten minutes or longer, two or three times a day, but going up-hill, or up-stairs, will long continue to be a painful exertion. The systematic rubbing and shampooing of the limbs, back, and abdomen, is the best substitute for exercise. Much may be done by passive exercise in chronic inflammatory affections. In summer, the patient can be carried into the garden, and be left for hours in the warm sunshine; in colder weather, a lounge in a Bath-chair, boat, or carriage, can be managed. The carriage shakes a person less than the Bath-chair, for many complain of pain, not only when they are jolted over a rough road, by an unsteady hand, but even when they pass over a pebble in a garden-walk. A Hansom cab is the least liable to increase the pelvic pains, so it is fortunate that fashion no longer forbids its use to ladies, for any one who has been jolted for half an hour, in a villainously-hung ordinary cab, will understand how this will aggravate pain. When expense is no object, it should be remembered there is much less shaking from two horses than from one, and the front seat of a carriage may be suspended on springs for the feet to rest on; but, even then, many patients suffer less from walking than from the easiest hung carriage. As a rule, horse exercise is objectionable in all forms and stages of uterine inflammation; but if the patient will be content to go at a walking pace, riding will sometimes fatigue less than walking; and one patient, in whom inflammation of the womb was complicated by hysteria, could bear horse exercise, while riding in a carriage habitually increased her pain.

RAILWAY TRAVELLING.—Many, who suffer even moderately from uterine inflammatory affections, feel an aggravation of pain from any sudden movement—from a jar, or a false step going up or down stairs—so it is not surprising that railway travelling should often very much increase the patient's sufferings. I have known a long railway journey bring on premature labor, miscarriage, flooding in cases of cancer or of fibrous tumor, and so aggravate the sufferings of internal metritis, that patients had to be removed from the carriage in a state of unconsciousness. In badly-hung carriages, one often goes on pounding unevenly-laid rails, by a succession of up, down, and lateral concussions, which render railway travelling so much more trying than a carriage-drive; the laminated state of the rails often showing how they had been hammered by the carriages; and if the shaking in our railway carriages is bad, it is worse on most Continental railways. When it is necessary to travel by rail, those who suffer from the more severe forms of uterine inflammation should avoid doing so during the menstrual flow or its proximity, and even during the time when it ought to come, whatever may be the reason of its non-appearance. If the line be easy; and on the broad gauge, the patient cannot do better than lie down as on a sofa: if the line be bad, it is better to sit upon a water-cushion, for, every part of the carriage that is leaned against for support, replies by a more or less severe jar and concussion.

The worst effects of moving were exhibited in a patient of mine who had been confined to her bed for six years, by chronic uterine inflammation and a succession of pelvic abscesses and many intercurrent complaints. The repairs of the adjoining houses and that in which she dwelt rendered it imperative to move her to other apartments, a quarter of a mile distant. The removal was made in one of Mr. Reading's invalid carriages, the patient having been placed under the influence of chloroform. As soon as the carriage began to move, the patient arched her back to protect it from the jolting of the carriage, and was keenly conscious of pain, though of nothing else. This concussion of the spine was followed by great failure of power on the part of the heart, great pelvic pain from an abscess, which opened into the vagina on the fifteenth day, inability to take food and stimulants, and an almost total absence of sleep, so as to endanger life for many weeks. I moved the patient as the best alternative, but,

when much in the same state, this lady had been advised, by two eminent physicians, to go into the country or to the seaside.

The previous remarks will explain, that the use of sewing-machines should be forbidden, when there is a tendency to uterine affections, and I have often been obliged to forbid playing the organ or harmonium, to the wives or sisters of clergymen.

DIET.—When uterine inflammation and ulceration have not a traumatic origin, they often seem to depend on some hidden unhealthiness of the blood plasma, and purulent secretion may be considered as a process set on foot to purify the blood, so without neglecting the treatment of local diseases, the physician must not overlook the state of the blood in which they may take rise, and, in the absence of more precise indications, he must fall back on the recognized canons of hygiene. Chronic ulcers of the legs often reflect the regimen of the patient, and will not heal if the supply of food be insufficient or indigestible; the same holds good with uterine ulcers. In other words, blood distemperatures keep alive inflammation, and as Dr. Addison has said, if keeping peas in a sore protracts granulation and discharge, so does a perseverance in unwholesome articles of food. It must be also remembered that over-feeding interferes with the good progress of inflammatory exudation, and the surgeon finds that a quick, full pulse checks that adhesion of external wounds which is promoted by quiet circulation. Those who consult me for inflammation of the womb are frequently taking meat, three times a day, to remove debility, whereas, this too abundant use of animal food often increases debility by causing dyspepsia and phosphatic urine; and even when these conditions are not present, patients are sometimes condemned to take an amount of animal food which they know will disagree with them, because the public, in its ignorance of physiology, believes that a beefsteak diet which strengthens one person will strengthen another; the profession, however, can understand that many nervous women are made more so, by animal food; they know that the blood is the stimulus of the nervous system, and that it can be fretted by blood made too rich in corpuscles, or over-carbonized. The majority of nervous women will derive greater strength, from a moderate diet and a small amount of animal food, than from generous living, because moderate diet will give the blood the crasis that harmonizes best with an excitable nervous system. To such patients, I advise poultry, game, or fish, with strong beef-tea

or savory sauce, and Liebig's extract of meat has been a great boon to many. Half a teaspoonful in a breakfast-cupful of boiling water makes a capital broth, and a wineglass of sherry enhances its stimulating qualities. A little of the extract of meat mixed with the thin paste that is served up as melted butter, makes a tolerable sauce for fowl or fish, and a small quantity spread on bread and butter is an excellent relish.

STIMULANTS.—With regard to stimulants, few patients consult me who have not been drenched, at some time or other, with wine, ale, or porter, often in direct opposition to their safer instincts. I have seen young ladies rendered hysterical by undetected uterine inflammation, who were kept half drunk, for weeks, on stout and wine. However indispensable in certain cases of fever, large quantities of alcohol seem to me objectionable in inflammatory affections, unless debility be very great. This system panders to the strong propensities of our race; for we are akin to those nations, whose early notion of paradise was, to drink perennial mead out of their enemies' skulls. Our grandfathers frequently brought festivities to a conclusion *under* the table, and even now, with all our boasted sobriety, we are the only civilized nation who, after taking as much wine as is good for us in company with the ladies, systematically sit down to drink so soon as the ladies have retired. There is nothing new in the stimulant mode of practice, for Pecquet, whose discovery soon followed Harvey's, gave his patients little besides brandy; like Brown who killed himself by drink, and it would be indeed a pity if his system were to revive amongst us, under the cloak of transcendental physiology. I am glad to find that Dr. Wilks, of Guy's Hospital, has expressed himself on this point as forcibly as myself. In general, stimulants are to be simply considered as articles of diet, to be taken or avoided according as they have been found to agree or disagree, and to be left off altogether if they impair digestion or affect the head. Patients attach great importance to the particular wine they are to take, and my advice is, to take that which they have found to agree best with them, believing that the kind of wine is of comparatively little importance, when only one or two glasses are taken, in the course of the day. It is quite different with a man suffering from disease of the stomach or kidneys, for if he require a daily pint of wine, it may be of great importance whether it be claret or port. Doctors generally advise the wine that agrees best with themselves, and

the main point is to get genuine wine. Those, who cannot afford to give a high price for sherry and port, had better drink claret or Baune. Among the Hungarian wines, Erlau and Carlovitz are red wines, and, although cheap, they may be depended on, as it has not yet answered the purposes of trade to adulterate or imitate them. In general, the state of the blood and of the digestion may be correctly inferred from an analysis of the urine; but this is not always the case in those suffering from uterine inflammation, for not unfrequently uterine inflammation so irritates the bladder, as largely to increase its mucous secretion, leading to the formation of lithates and phosphates, the removal of which is to be rather sought in the cure of the main disease, than by the prolonged exhibition of alkalies, as I shall mention when treating of the complications of uterine inflammation.

EXTERNAL APPLICATIONS.—If, as Dr. Carpenter maintains, the interchange of gases contained in the air and the blood, on the cutaneous surface, has a share in the production of the body's warmth, we obtain an insight into the mechanism of topical applications. It is even stated, that peritonitis has been subdued, by extensively coating the abdomen with an impenetrable varnish, made with collodion 1 ounce, castor-oil 4 scruples, and Venetian turpentine 30 grains, and this may explain that the constant application of oil-silk may be sufficient to diminish or remove severe pain. Some patients complain that the oil-silk commonly used, when it is applied over damp lint, sticks disagreeably to the skin; but a newly-invented *oil-tissue* is, in most cases, a good substitute for oil-silk; and, when this impermeable paper is spoiled, it can be thrown away, as it only costs a shilling a sheet. When the object is to place the abdomen in a kind of medicated vapor-bath, it is better to place over it flannel or lint made damp by some appropriate solution, and enveloped in oil-calico, such as is used at King's College Hospital. Any of these contrivances may serve to place the skin in contact with diluted laudanum, tincture of aconite, turpentine, camphorated spirit, as well as with the lotions prescribed in the Formulary.

FOMENTATIONS.—Fomentations with warm fluids, or water holding an opiate in solution, are useful, but they are not often had recourse to, as they cannot be well applied without the assistance of an intelligent nurse.

LOTIONS.—In chronic uterine complaints, it is very useful to

keep the watery solutions of active remedies in prolonged contact with the abdominal surface. The thick spongio-piline imbibes a considerable quantity of fluid, and, like a poultice, is more suitable for the treatment of acute affections. Piline is much thinner, resembling cloth, with an impermeable side, and it may be damped with a medicated solution, and kept in place by an appropriate bandage. Impermeable lambskin is sold by Mr. Ewen, of Jermyn Street: when damped with a watery fluid, it retains its moisture for several hours, and is so soft and pliable that it easily moulds itself to the abdominal surface, to which it closely adheres.

LINIMENTS.—Instead of the filthy compounds in general use, I sometimes prescribe a liniment made chiefly of glycerine and rose-water, in which the sulphates of atropia and morphine are dissolved. Stimulant and sedative liniments can be sometimes made more efficacious by previously heating the skin with a flat-iron, or by using them after taking a bath, or in a hot room of the Turkish bath, so that more of the medicated ingredients may be absorbed and the nervous expansions more powerfully acted upon. This holds equally good with ointments.

OINTMENTS.—I much prefer those of which glycerine ointment forms the basis, as they admit of being brought down to any degree of fluidity, by the addition of glycerine or water; they do not soil the linen, and can be washed off in a moment.

PLASTERS.—As an ordinary plaster is useless when reapplied, and as it interferes with the bath or sponge bath, I recommend my patients what I call “ready-made plasters,” consisting of stiff glycerine ointment, spread with a paper-knife on a piece of gutta-percha cloth, which can be taken off and reapplied, after spreading more ointment on it, as often as may be desired. For further details, I refer the reader to the Formulary.

POULTICES.—In acute inflammation of the womb, and the peritoneum, there is nothing better than a large thin, hot, and well-made linseed-meal poultice, freely sprinkled with laudanum, placed next the skin, without any intermediate muslin, and renewed every two hours, until the abatement of inflammatory symptoms. To make a good linseed-meal poultice, the meal should be placed in an earthen pipkin, boiling water gradually poured upon it, and, when it is well mixed, it should be put upon the fire for a few minutes, stirring it all the time to prevent burning. Nurses seldom take this trouble, so their poultices are badly made, and some-

times the materials adhere so slightly, that I have found lumps of poultice in various parts of the bed. A good poultice, and a clean-looking one, can be made with rice, whole or ground, and, being less liable to ferment, it is preferable as an application to the mucous membrane of the vulva. When inflammation is very acute, I order half an ounce of an ointment, containing two drachms of extract of belladonna to an ounce of mercurial ointment, to be smeared over the abdomen, which is to be covered by a hot linseed-meal poultice; ointment and poultice to be renewed every two hours, while calomel and opium are given internally. Some will derive more benefit from dry heat applied by means of bags of salt or bran. As inflammation abates, these remedies may be reserved for the night, or camphorated oil may be rubbed in twice a day, the smeared surface being covered with cotton wadding. Mustard applications are often useful as household counter-stimulants, the usual mustard plaster of equal quantities of flour and mustard made into a thick paste with boiling water, and spread on brown paper, or a linseed-meal poultice may be sprinkled with mustard flour, or with coarsely-powdered camphor. In the chronic stage of inflammatory affections, it is often good to well foment the abdomen with hot water, and then to apply the cold-water compress, covering it with oil-silk. This may be kept on all day, or renewed whenever it becomes warm and makes the patient feel uncomfortable. In acute ovaritis, when pain is intolerable and the patient too much reduced to bear leeches, I have sometimes advised the application of a bag of ice to the painful spot, and have had it kept on, at intervals, for many hours, with temporary benefit.

VAGINAL INJECTIONS.—Vaginal injections are of great importance, for by their judicious administration one is enabled more speedily to cure inflammatory diseases of the womb, and the patient can generally prevent inflammation, by continuing their use. Nevertheless, I have met with eminent surgeons, and obstetric physicians in high repute, who could not see their utility in abating the inflammation of the sexual organs. Very few, of those who come to consult me, have used injections in a rational way, and it is certainly strange that medical men should ever recommend their patients to use a small glass or pewter syringe, with which scarcely two to four ounces of fluid can be injected. Should such an instrument be only once emptied, its contents will not be sufficient to remove the uterine secretions from the vagina, if they be glutinous,

and, if it be repeatedly filled and emptied, it is very troublesome without being effectual. There is no better instrument than the vulcanized india-rubber syphon syringe, by which one or two pints of water may be injected and reinjected, for any given time; but, the best instrument will be useless, unless the surgeon take the trouble to explain its object and its mode of use. It should be stated that injections are mere lotions applied to internal organs, and that the tube should be introduced as far as possible without giving pain. In order that the lower part of the womb and the whole vaginal surface may be acted on, the reclining posture on a hard sofa, with the edge of the basin under the seat, is the best way of using them; and the liquid should be pumped up for at least five minutes. The temperature of the fluid should be warm or tepid in the acute stage of inflammation, afterward as cold as the patient can bear it without being disagreeably chilled, and it is perfectly absurd to suppose that the use of cold water can give a morbid hardness to the cervix, as has been lately stated. Very hot vaginal injections are recommended by some American surgeons, but I have not tried them. I should not dwell on these minutiae, if I did not believe that few patients derive their full benefit from the use of injections, and several have owned to me that they did not take proper pains with them, until after two or three relapses of uterine inflammation. A good way of ascertaining whether injections are well made is, to tell the patient to inject a strong solution of alum just before coming to consult, for the surgeon will then be able to ascertain how far the injection has penetrated. Another mode of making injections is freely to wash out the vagina with tepid water, and then to inject a couple of ounces of a strong solution of the mineral salts I am going to mention, but I prefer the first way, and, when the vagina is very capacious, the fluid will soon drain away if the patient stand upright for a little while after the injection has returned. When injections are advised to prevent relapses of uterine inflammation, or to prevent its coming on in Europeans who reside in a tropical climate, cold water alone is requisite. Injections may be ranged according to their strength, beginning with those that are emollient: water, milk and water, glycerine and water, in the proportion of two or three tablespoonfuls of glycerine to a pint of water; linseed-tea, poppy-head decoctions, solutions of borax, chlorate of potash, acetate of lead, alum and sulphate of zinc, decoction of oak-bark, solu-

tion of tannin, and tincture of iodine. One drachm of the saline compound should be dissolved in a pint of water, but only ten to twenty grains of sulphate of zinc when it is prescribed alone, and a dessert-spoonful of tincture of iodine, and the same quantity of liquid ammonia, in half a pint of warm milk, is recommended to promote menstruation, and to enlarge an undersized womb. Trousseau strongly recommends a large pinch of a powder, made with equal parts of corrosive sublimate and sal-ammoniac, to be dissolved in a pint of water, and used as a lotion or as a vaginal injection, first twice, then once a day, in follicular inflammation of the labia, but, whatever injection be used, the syringe should afterward be well washed out with water, to diminish the liability of its getting out of order. Seltzer water may be administered by means of the ordinary syphon syringe, but I have seen no good result from injections of carbonic acid gas in cases of cancer. Emollient injections are often usefully made three times a day; cooling injections are not required more than twice a day; alum injections not more than once, if used as antiphlogistics, but, if as astringents to check the loss of blood, they may be required two or three times a day. When pain is complained of, it is well to add to each injection one drachm of laudanum, or an equivalent dose of other sedatives, and, when the discharge is offensive, a teaspoonful of Condyl's fluid, or a tablespoonful of the liquor carbonis detergens, may be added to the injection. Under ordinary circumstances, injections should be discontinued during the menstrual period; but when it is difficult to heal ulceration of the neck of the womb, and in obstinate cases of vaginitis, it is advisable to continue the use of medicated injections during menstruation, and no danger can attend them provided they be used warm. When the menstrual flow is protracted, I do not hesitate to stop it, after it has lasted for the time habitual to the patient when in health, by alum and zinc injections, used first tepid and then cold, two or three times a day. As a rule, women will not let injections be given to them either by a nurse or a relation, so that in severe, as in chronic cases, injections are more or less neglected, because the patients are too weak to use them, and prefer suffering to exposure before another party. Others leave them off because they have not prevented relapses, but they can seldom be dispensed with, and, to obviate the objections to their use on the score of personal exposure, the patient may avoid it by placing

herself at the edge of the bed, with a cloth and bed-pan under her, while the nurse, holding the basin containing two pints of the fluid to be injected, can pass the tube under the bedclothes, and, after the patient has placed the tube in the vagina, the nurse can pump in the usual way, but to do this it will be necessary to have a tube three feet long fitted to the syringe.

DANGERS OF INJECTIONS.—In those cases for which I reserve the name of *Irritable Uterus*—that is, when considerable irritability cannot be accounted for by well-defined pathological conditions—I have often found injections give pain, and do no good, so it is well to postpone their use. Only once have I been led to believe that the patient injected some portion of the fluid into the cervical canal. A lady was suffering from chronic uterine inflammation—the womb was low and slightly retroflected, the os uteri patulous, and, after injecting a solution of acetate of lead, as the patient thought, in the usual way, she was suddenly seized with severe uterine pains, rigors, and intense cold. She got better when in bed, by means of abdominal poultices and hot drinks, and no bad consequences followed this attack. The way to prevent this accident, which can only occur where there is something peculiar in the patient's formation, is to explain to her how far the tube is to be inserted, and in what direction; stopping up the central orifice of the tube might be useful in such a case. In patients, acting on their own responsibility, I have repeatedly known the prolonged use of alum injections as a preventive of uterine inflammation, to produce an irritable subacute inflammatory state of the cervix uteri; and when astringent injections are long required, to enable a relaxed vagina to support the womb, I advise injections of alum and zinc, and of acetate of lead, to be used on alternate days.

I have several times been asked, whether there was no danger of lead-poisoning from the prolonged use of a solution of acetate of lead, and I have answered, it was not to be feared, for I have never met with any thing that could warrant the belief. Certainly, one patient writes me word, that she has been poisoned by injections, the gums having the characteristic lead-marks; but, as there has been no colic, I am doubtful of the fact. It has been stated lately, that it was dangerous to long continue the use of injections of sulphate of zinc; but this unsupported assertion is positively contradicted by my own experience, and by that of many others.

IRRIGATIONS.—When a large quantity of water is used, injections are called irrigations; they are useful adjuncts of surgical treatment, but their utility has been exaggerated, insomuch that I have seen inflammation of the womb and its ulceration persist, after gallons of water had been thus used, twice a day for months. I sometimes advise copious injections of cold water to be made, while the patient is in a warm bath. This can be done by placing across the bath a plank, and on it a pail of cold water, into which one end of an india-rubber tube is plunged; after the air has been exhausted from it, the other end is introduced into the vagina, without using a small speculum, as some have recommended.

ENEMATA.—These may be prescribed for a variety of purposes. When used to relieve the bowels, cold water is usually sufficient, and there are several good instruments by which it can be injected. By a change of tubes, the syphon syringe may be used both for the vagina and the rectum. The tube to be introduced into the bowels should have a rounded extremity, be greased with cold cream, and gently inserted about two inches in depth; the water should be quickly injected, and retained long enough to bring away feces, but not long enough to be absorbed. Patients have often done themselves harm by frequently injecting too large a quantity of fluid; two or three pints for instance. This sometimes displaces and irritates the womb, gives pain by over-distending the intestines, or by stretching the diseased peritoneum, if there has been pelvi-peritonitis. Half a pint of water is generally sufficient, and sweet oil, brown sugar, common salt, or Epsom salts may be added, should water be insufficient. I do not say soap and water, for I have seen it do great mischief, particularly when given in large quantities, although this too may be occasionally useful, to fully unload the bowels. The utility of small cold-water injections, as antiphlogistics, will be spoken of hereafter, and the injection of iced water is a strong antispasmodic in hysterical fits. When sedative injections are advised, it is better to put the solution into a two-ounce india-rubber bottle, and fill it with warm milk, screw on the pipe, introduce it with care, and then firmly squeeze the bottle and withdraw the tube.

SUPPOSITORIES.—These may be given by the vagina or the rectum. When given by the rectum no instrument is required, they must be introduced by the finger; and it will be easier to do so, if, in the mean time, the patient strains. They should be well

introduced into the bowel, because its sensitiveness is obtuse, whereas the suppository might irritate if left in the folds of the anus. I order them to be made in the shape of pills, for, if they be pointed at one end and become hard, they may irritate by their hardened point; when I treat of sedatives it will be seen how I value this mode of giving them. Vaginal suppositories are very useful, but the filthiness of the discharge which attends those usually recommended, renders them disagreeable to the patient, unless the proximate principles of plants be used in an appropriate vehicle. Cacao-butter, at least that prepared in France, and which contains more stearine and less oleine than that prepared here, is a useful ingredient of suppositories, because it melts sooner than wax, but retains its consistency in an average temperature, and does not get rancid. It has been long sold in France, made into large suppositories of a conical shape, to be introduced into the rectum to procure evacuations; morphia and other medicated substances have been incorporated with cacao-butter by French chemists, and it is far superior to wax and tallow for the confection of vaginal suppositories, and is getting into general use. It is useless to prescribe vaginal suppositories to women who cannot lie down in bed, for they slip out before they have melted.

BATHS.—When moving very much increases pain, as when acute pelvi-peritonitis complicates inflammation of the womb, warm baths do more harm than good; but great good is to be derived from their use, after the subsidence of the more acute symptoms of inflammation. In acute internal metritis, I have often quieted distressing pain by making the patient stop in a hip bath at 96° or 98°, for three-quarters of an hour or an hour every night before bedtime, more than by opiates—camphorated oil, or some other liniment, being well rubbed into the back and abdomen on leaving the bath. In chronic cases of internal metritis, and in acute inflammatory affections of the neck of the womb, the same plan is useful. The occasional use of the whole bath, given at a temperature ranging from 93° F. to 95°, is also invaluable. As regards baths, English society is imbued with the most ridiculous prejudices. Ten minutes or a quarter of an hour is the time most patients stop in the bath, when ordered to use it. Those who take meat twice a day, with beer or wine, will gravely ask, if it be not very weakening to remain in the bath half an hour once or twice a week. For cleanliness this may be sufficient; but unless the

patient stop an hour in the bath, its full benefit will be wanting. Alluding to an hysterical patient, Pomme says, "It is so difficult to conquer prejudice, that I could scarcely persuade her to remain ten hours in the bath every day." What would he have thought of patients who stare when they are told to stop in it one hour? The strength of popular prejudice reacts on medical practice, and makes the profession forget the advantages of prolonged bathing for nervous affections, for the bath not only removes saline deposits from the skin, and dilutes the blood, but it also acts on the whole frame by applying warmth to all the peripheric expansions of the nervous system. The warm bath acts as a sedative to the nervous system; it is a gigantic poultice, and a perfectly manageable one, as its temperature can be increased or lowered, according to the patient's feelings, and the practitioner's discrimination.

When I wish to obtain the sedative effects of baths, I direct the patient to take them heated to about 93° F., and to remain in two, three, or four hours, having warm water added at times so as to maintain a grateful temperature. A greater sedative effect will be obtained by letting the water cool down to 90° F., or even lower, and the amount absorbed will be proportionate to the low temperature of the bath. This is thoroughly impressed upon my mind, from having observed that, in those who suffer most from uterine disease, the skin is cold, clammy, or dry, never perspiring; and so it is in the worst cases of mental disturbance at the change of life. This tallies with old experience, for Hippocrates says, "*Melancolici in tantum curantur, in quantum balneantur.*" Galen, Aretæus, Cælius Aurelianus, and Celsus ordered hypochondriacs to drink cold water, and use fomentations and tepid baths. Hoffman and Baglivi admit that hypochondriacal affections are best cured by the continued use of tepid baths. Sanctorius has the following axiom: "*Hypochondriaci, si frequentibus balneis eorum corpora reddantur perspirabilia, et vectu humido utantur, saniflant.*" Pomme owed his reputation to the sagacious manner in which he used water as a medicinal agent, both internally and externally. He generally made his patients stop in the water three or four hours a day; and ten, or even sixteen, in very severe nervous affections. If the plan were not really beneficial, it would not have been recently revived and adopted, under a modified form, in the lunatic asylums of France.

HIP-BATHS.—In all chronic inflammatory conditions of the

body or the neck of the womb, cold hip-baths are very useful, taken immediately on getting out of bed, remaining at first in the bath only two or three minutes, so as to have the full benefit of the reaction, the occurrence of which will indicate the safety of the practice. It may be afterward advisable to let the patient prolong the stay for ten or fifteen minutes. In winter the temperature of the water should be raised to 60° F. The French think, that the absorption of interstitial deposits in the uterine tissues is promoted by the addition of half a pound of the common household soda to the hip-bath, or of two pounds of the same to the full bath, and from four to six ounces of alum, or ferruginous alum, may be added, when an astringent action is required. Those who cannot bear cold hip-baths or shower-baths should sponge alternately with very hot water, and with water at 60° F.; and it is surprising how much good may be done, in this simple way, if proper precautions be taken. Two large basins, with very hot water in one, and with cold in the other, and two large sponges, are all that is wanted; the patient will first freely use the hot, and then the cold sponge, and so on alternately for a dozen times at least. The cold water may be occasionally made more exciting by the addition of a tablespoonful of common salt, or of Tidman's salt.

What relates to the hygiene of the menstrual function, and of the organs of reproduction, has been already incidentally stated on several occasions, and will again be considered as the means of preventing diseases of the womb; I shall merely add, that it is incumbent on all who suffer from any form of disease of the sexual organs, to be extremely careful of themselves at the menstrual periods. I generally advise those who suffer much from uterine affections, to take two grains of calomel, or three grains of blue pill, associated with a brisk purgative, about the last day of each menstrual period, and a warm bath two or three days afterward.

CHAPTER III.

TONICS.

WHEN insurrections spring up in a State, we know its constitution to be unsound, and that the reins of government are loosely held by incapable rulers; so are we justified in frequently ascribing the recurrence of well-localized inflammatory action to constitutional disturbance, and to the impairment of that vital force which is the natural endowment of every living creature. Hence the value of constitutional, or of tonic treatment; for, I believe, that good hygiene and well-planned tonic treatment would suffice to cure three-fourths of the women who suffer from congestion, subacute inflammation, and slight ulceration of the womb. With regard to the remaining twenty-five per cent., the lesion being more serious, their cure requires surgical treatment; but its efficiency will be increased, if combined with tonic treatment, and, without it, relapses are almost inevitable.

What is strength of constitution? It seems to me to be variously exhibited in those who come under my care. There is the well-proportioned woman, with well-balanced organs acting together in perfect harmony, to whom the full tide of vigorous circulation imparts the attributes of the sanguine temperament. Here strength is evidently written, but it is met with in others, to an eminent degree, without being apparent. There is the well-proportioned woman, thin, although the digestive functions be good, with a clear, pale skin, looking delicate, but reacting well on cold, bearing fatigue, and throwing off disease well and rapidly. When I have seen these women marry, I have been fearful of bad miscarriages and sickly children; yet some have safely borne large families, retaining excellent health, though always looking delicate. There is no possibility of denying the strength of such women.

There are others in whom the nervous system predominates and inclines to be morbid, and in whom the sexual organs have been evidently congenitally vitiated, either in structure or endowment, so badly are their functions always performed. I have seen these women rise from sickness, to go through an immense amount of bodily fatigue or mental anxiety; and though I have repeatedly despaired of their lives, they have recovered, and thus gone on till the cessation of menstruation, when they settled down into tolerable working health. Now it is utterly impossible for me not to consider strong, women who have battled through life at such fearful odds, and have come off victorious.

There are likewise several kinds of debility besides that of acute disease, for which lowering measures are often the best tonic. Debility may be congenital or acquired.

1st. Congenital debility is very common, and different in kind as well as in degree.

a. In some, the most careful examination leads to the conviction that the sundry organs are well equipoised; but it seems that the body was cast after a poorer and weaker model, to perform its usual functions in a languid fashion. It is often possible to trace this lower type of power to the fact of conception having taken place during the serious illness of one or of both parents, or in the last stages of their procreative power, or to the long-continued misery and anxiety of the pregnant mother. I am telling the history of those who have lived all their life in comfort, for prolonged deficiency of food or excessive blood-loss induces a state of debility similar to that which is congenital. What can steel and quinine do for those whose vital power has been, from the first, pitched too low? In such women debility must be accepted, to a great extent, as a condition of their existence, which can only be improved by the slow renewals of nature, as life advances, and by the more fortunate conditions of life. To attempt to raise their strength above its usual standard by steel and tonics, only increases their sufferings, and has been often very detrimental to patients who implicitly continue to follow, for too long a time, in the country, an opinion once taken in town.

b. There is a debility caused by the loss of that balance which ought to exist between the great systems that form the human body. The lymphatic temperament is a marked instance of this kind of debility. What matters our inability to define lymph

chemically and histologically, so long as we can recognize the lymphatic temperament by its well-known characters, which lead us to expect less power of reaction against cold, a tendency of all mucous membranes to exaggerated action, of glands to swell, and of joints to enlarge? Against this kind of debility medicine is potent, with hygiene and tonics, iodine being especially advantageous.

c. There is a debility dependent on the deficient bulk and power of some important organ. How many handsome men and women—tall, broad-chested, large-limbed—but still with a pasty look about them which excites suspicion. They are subject to cold feet and hands, and do not react well on cold; they cannot bear abstinence, fatigue, disease; they go on well through the plain-sailing of life, but, with all the outward appearance of strength, when touched by a moderate pressure of disease, the mainspring of life quickly runs down and snaps. The reason of this may be, that the big form had a small heart and a poor, weak pulse. Steel and quinine may be useful in such cases, but they will not enlarge the heart: if medicine cannot cure this radical debility, it teaches, at least, the danger of lowering such constitutions. Akin to this, is the debility that blights the whole bodily frame of a girl in hitherto blooming health, owing to the imperfect evolution of ovarian influence at puberty, or the arrest of that influence after its full establishment. Fortunately, against chlorosis, iron and tonic treatment is all-powerful.

2d. Acquired debility falls on an originally well-endowed human being.

a. It may be the result of defective nutrition, owing to the want of sufficient food and of the fostering comforts of life, chiefly in infancy, childhood, and youth. In such cases, food, air, and sunshine, are the best tonics.

b. There is a debility, mostly seen in women, the result of excessive loss of blood. There are a certain number of thin and blanched women, who have been so affected by large floodings, or by a long-continued moderate drain, that they never recover their original strength. They fulfil the duties of life, but do so with a lower type of strength. Tonics enable them to live on tolerably well, in accordance with that lower type, but they never recover their original strength.

c. There is the debility of chronic disease. Confirmed invalids,

and above all, those who are bed-ridden, after a partial recovery from one attack of illness, soon enter on another, and thus pass years in chronic convalescence. Deficient food, air, light, and exercise, lower the energy of those chemical actions on which depend the nutrition and the repair of the body, while recumbency reduces the power of the heart. In such cases, it is useless to hope to restore strength to its original standard. Change to where food, air, and light may be again accepted, as old friends with a new zest, is the best tonic; quinine and iron are often useless, and sometimes increase the patient's sufferings.

d. There is a debility arising from sundry poisonings of the blood, as, for instance, by cancer; and here again we give tonics.

Now, in all these forms of debility, we enforce the same sound dictates of hygiene, we ring the changes on the same tonic agents. The constitutional treatment of local diseases is too firmly rooted in the medical mind to require advocates, but it would be wrong to exaggerate our knowledge and our power. We know the specific influence of iron in chlorosis, of iodine in scrofula, mercury in syphilis. We may look on arsenic as a nerve-tonic. We may suspect that, in the deepest-laid framework of tissues, there may lurk some hidden taint; that another may lie dormant in the blood, for a longer or a shorter time, to be imperceptibly eliminated, or to wake up again into morbid action, but we are, all of us, too sound practitioners to let our practice be governed by these suspicions, and we fall back on the broad principles of tonic treatment; that is all we can do to restore the working power of the system to its right strength; and when I say tonic treatment, I mean not only medicinal agents, but hygienic and mental tonics.

MEDICINAL TONICS.—These often cure uterine irritation and congestion, but they have little influence on confirmed inflammation of the womb. I am daily called upon to treat, by surgical measures, patients who have been drenched with steel and bark, under their most approved forms, for many years; so their inability to cure severe uterine disease is, to me, an indisputable and often ascertained fact. This does not prevent my associating the exhibition of these remedies with surgical measures, in almost every case, and I only cease to prescribe tonics, on becoming convinced that they do no good. I have just said that constitutional strength varies in each individual, and when this level is unusually low, women are peculiarly subject to chronic affections, and then

the system often refuses to bear medicinal tonics, except in the mildest forms, and in the smallest quantities; large doses being positively detrimental. My rule is, to suspend the administration of tonics during the menstrual period; but if debility be great, I do not let menstruation interrupt their exhibition, unless the patient be taking one of the mineral acids.

IRON AND QUININE.—These are the tonics I mostly depend upon, given alone or together, but I never give iron when there is a tendency to flooding or to profuse menstruation. The well-educated practitioners, who will read this work, must be already conversant with the history and properties of drugs, so it would be useless to repeat what can be found elsewhere, and they can scarcely fail in their choice, so excellent are the many preparations of iron and of quinine, which we owe to modern chemistry. In summer I give chalybeates in an effervescing mixture, or prescribe the granulated effervescing citrate of quinine, or of quinine and iron. It is also very convenient to give these medicines under the form of syrup. The tincture of sesquichloride of iron, with one drop of tincture of arnica to each dose of the above preparation, will be found useful in uterine affections; and when these are associated with dyspepsia, the artificial Cheltenham salts, or the granulated carbonate of iron, are useful preparations, to be taken on rising.

MINERAL ACIDS.—I frequently prescribe these acids to those who cannot bear stronger tonics, or who are not yet in a fit state to derive benefit from them. Mineral acids improve the appetite, check congestion of the liver, and modify the blood. I am not aware that one is better than another, but possibly sulphuric acid may more effectually arrest the flow of blood from the womb.

ARSENIC.—Arsenic is said to improve diseased nutrition by its action on the ganglionic nerves. Its action is heroic in a host of cutaneous affections, and when we consider the structural analogies that exist between the skin and the mucous membranes, it is surprising that arsenic has not been more frequently tried. I have given it with good results, in cases of chronic uterine subacute inflammation with marked tendency to relapses. I do not think it would be correct to infer, that the disease of the womb was herpetic, because it yielded to arsenic, because this will also cure ague. I prescribe Fowler's solution, or the chloride of arsenic as is given for disease of the skin. I frequently order the hypophosphite of soda and bromide of ammonium as nervine tonics,

believing in their efficacy, so far as it is possible to estimate the value of drugs, the action of which is slow, and always associated with other remedies.

HYGIENIC TONICS.—I have already discussed the questions of food and stimulants at p. 37 of the chapter on dietetics.

Muscular exercise, under various forms, has already been considered, and its scientific application will be treated of under the head of Gymnastics, as the means of preventing Uterine Disease. Cold and heat I shall consider under the terms of Hydrotherapeutics and Turkish Baths.

HYDROTHERAPEUTICS.—Considered now by some as a panacea for all complaints, the more or less systematic use of water is as old as Hippocrates. When cold is maintained in contact with the body for a time, variable in different constitutions, it acts as a sedative; whereas the sudden plunge into cold water only drives warmth to the great centres of vitality, to make it rebound to the surface with additional force. This is a popular experiment, but a French physiologist ascertained, that holding one hand in iced water actually lowered the pulse in the wrist of the other hand, which had not been robbed of its heat, and Fleury found, by actual measurement, that douching the skin with cold water diminished the size of the considerably enlarged liver and spleen. Some of the appliances of hydropathy, such as injections, and hip-baths, are valuable at all periods of the treatment of uterine affections, but a regular course of hydropathy is occasionally useful to prevent uterine relapses, and restore a patient to perfect health. A single lady, aged twenty-five, suffered from inflammation and slight ulceration of the neck of the womb, with uterine symptoms, impossibility of walking, and great debility. The ulceration was cured, but congestion with uterine symptoms resisted all local treatment and tonics. I prescribed cold uterine injections twice a day, to sit in cold water for a quarter of an hour before breakfast and before dinner, and to wear a wet cloth and flannel band over the abdomen all day. This was done, winter as well as summer, with so much benefit, that she was able to walk a mile without fatigue, and felt much stronger, although she had left off wine. It is better thus to plan a treatment for the patient to follow out at home, than to send her to a hydropathic establishment. One patient of mine was not allowed to continue the use of acetate of lead vaginal injections at one of these institutions, as I had recommended, and another

was not allowed even to use cold water for the same purpose. The food too is sometimes unsuitable, wine is not allowed, and homœopathy is generally advocated. To my own experience I must add, that I have received several anonymous letters from ladies, stating that my qualified approbation of these establishments, in a previous edition, had induced them to enter them, but that the treatment there adopted had aggravated chronic uterine disease. There was, however, a marked improvement obtained, after many months' residence in a hydropathic establishment, in three cases, in which uterine inflammation and neuralgia were elements of very complicated pathological problems; but, when it is a question of a remedy, continued for six or twelve months, one must remember that, in that space of time, the disease might have abated of itself. Moreover, many invalids who leave home to live, six months every year, with new and pleasant people, amid new and beautiful scenery, would recover without the agency of cold water treatment. Many have sought to cure inflammation and ulceration of the womb by long-continued irrigation with cold water, and various means have been devised to give uterine douches. The prolonged use of the syphon injection-apparatus, with a quart of water, answers the purpose, is useful in most cases, but only *cures* congestion.

SPONGE-BATH.—Patients cannot be too strongly advised to continue its use, unless incapacitated by sickness. In winter the temperature of the water should be brought up to 60° F. by the addition of warm water; and this applies to all cold-water applications in winter.

THE COLD HIP-BATH, OR SITZ-BATH.—If the patient do not stop more than a minute in the cold water, there will be a strong reaction to the skin, and the internal organs may be benefited thereby; whereas, if she remain in it from five to ten minutes, a sedative effect is produced, which cures the last stages of uterine inflammation and prevents relapses, but the action of the prolonged cold hip-bath must be carefully watched, for I have often found uterine disease, in delicate women, made worse by it. A handful of bay salt or alum, or half a pound of the ammoniated iron alum, may be added to the water, and this can be discontinued when the skin shows signs of irritation. The Sitz-bath may be taken before or after the sponge-bath, and those who can sit in it from

five to ten minutes should have a blanket thrown over their shoulders, and their limbs well rubbed on leaving it.

THE COLD BATH.—There is nothing so invigorating as plunging into cold water before the body has lost the warmth of the bed, and if this does not bring on chilliness, shivering, and headache, it may be taken for granted that it is well borne.

RANGE OF UTILITY.—I have had patients who, for months, have been in the habit of daily injecting into the vagina several gallons of cold water, without curing ulceration of the womb or its hypertrophy; hence, I contend that, however useful as an adjunct, it is insufficient to cure uterine inflammation. During the progress of recovery the medicated injections already mentioned are preferable; but, when the patient is well, nothing gives more tone to the mucous membrane, and diminishes the liability to relapses, than copious injections with cold water every morning; and it is still more necessary that it should form part of the morning toilet of all those who reside in tropical countries, as I shall show hereafter. If by douches and injections of cold water it is possible to keep uterine congestion in check, so as to diminish hypertrophy, it may also make a displaced womb return to its normal position, render menstruation more healthy, increase the chances of conception, and diminish the tendency to abortion. With regard to the action of cold water during menstruation, I have not felt justified in recommending its use, but I cannot help thinking that we exaggerate the power of cold applications on the menstrual flow. If they are not sufficiently energetic or prolonged to check reaction, I do not see why the flow should be thereby interrupted, for it is the prolonged action of cold that so frequently causes diseased menstruation and uterine inflammation, acting on the system so as to paralyze the vital organs and deprive them of all power of healthy reaction.

Descending from theory to facts, it is well known that the presence of menstruation does not prevent fisherwomen and bathing-women from entering the sea. Sanctorius affirms that the cold bath promotes menstruation. Pomme advised, for menstrual colics, to cover the abdomen with cold epithems, and to give repeated draughts and enemata of cold water. Priessnitz did not allow menstruation to interfere with his cold-water prescriptions; and Dr. Fleury, an eminent Paris physician, who has written a good book on the use of cold water, states that cold uterine douches

may be given during the menstrual flow; that they do not interfere with it when healthy, and that they bring it back to a healthy type if it be abnormal. These statements have been corroborated lately by Dr. Chapman, who treats defective and painful menstruation by placing ice-bags over the three lower dorsal and all the lumbar vertebræ. The results of this application are stated to be: "A sedative influence on the ganglia of the sympathetic nervous system lying on each side of the spinal column; a diminution of the nervous currents in the vaso-motor nerves emerging from the ganglia acted upon, and distributed to the muscular fibres of the arteries of the reproductive organs; a diminution of the contractile energy of these muscular bands, so that the dilatation of the arteries which they surround is facilitated; and, by thus inducing in these arteries a state of ready dilatability, the production of the circulation of the blood through them in greater volume and with greater rapidity than before." How far this explanation is correct, and the practice safe, must be settled by future researches, but my limited experience enables me to sanction the practice, and Dr. Routh and Dr. Rogers have spoken favorably to me of the trial of the plan at the Samaritan Hospital for Diseases of Women.

TURKISH BATH.—It has been seen that the safety of cold-water applications generally lies in the reaction they determine, and this reaction may be effectually increased by the quick alternate use of cold and hot water. A basin containing cold water, and another containing hot, with a sponge in each, forms a simple but wonderfully useful contrivance in a host of cases: for there is no woman too sensitive to be thus treated, and I have often found it highly instrumental in restoring delicate children to health, by having the whole of the spinal column treated in that way twice a day. This reminds me that Dr. Brown-Séquard, to cure neuralgia and prevent bed-sores, advised alternate applications of ice for ten minutes, to be followed by very hot poultices for an hour. With the view of increasing reaction, and, as it were, cooking a man with his own heat, Priessnitz devised packing. I have found the *half-pack* useful, by which is meant wrapping the lower half of the body in a large towel wrung out of cold water, and then in a blanket. Packing is, however, a tedious, clumsy way of procuring copious perspiration, which may be safely effected by placing a spirit-lamp under a chair, on which the patient sits naked, with a blanket fitting tightly round her so as to retain the heat. When she is

sweating freely, a shower-bath is given, or a douche of cold water is directed over the loins and pelvis. This was the plan adopted by Dr. Aran, and for which the Administration des Hôpitaux fitted up convenient premises at the Hôpital St. Antoine.

The Turkish bath embodies the same principle. On remaining with scanty clothing in comparatively dry air, heated from 100° F. to 125° F., for about twenty minutes, the sensations are pleasant, and the skin soon breaks into a copious perspiration. The heat saturation-point of the system is, however, sooner reached by passing from the first room to another heated up to 150° F. This is at first felt to be disagreeably hot, but one soon gets accustomed to it, and the sweating is more abundant. Air heated up to 180° F. strikes like the blast of a furnace, and brick and wood feel burning. Notwithstanding what is said by those who have not tried the Turkish bath, one can breathe freely in these high temperatures. A man, aged forty-eight, weighing under eleven stone, being in tolerable health, and without spare fat, can stop an hour in dry air at 125° F. without the slightest discomfort, losing above a pound in weight, which is soon restored by a keener appetite and an unusually sound sleep. His usual pulse is 60 per minute; after remaining in half an hour it becomes fuller and rises to 80, and an additional half hour does not disagreeably impress the organs of circulation. If, instead of remaining in a temperature of 125° F., he passes to a room heated to 150 F., the pulse rises to 100 or more, is full and bounding, and the heart is felt to be acting strongly, its sounds being audible to himself. The same sensations are more forcibly felt in air at 180° F. Faintness at the pit of the stomach, a kind of fainting quite different from syncope, and called *leipothymia* by older authors, is the result of stopping too long in too great heat; vomiting may occur, and headache is frequent; I had one for three days after remaining too long in a bath at Damascus. On leaving the hot room, the bather lies down in one less heated, to be carefully shampooed, after which he is washed with warm water and soap, and then receives a cold shower-bath. This done, the bather retires to the cooling-room and reclines for half an hour, the object of which is to rid the system of the superabundant caloric, which would break out again in perspiration if he dressed immediately. The immediate effects of the Turkish baths, at least on me, are to make me feel lighter and stronger, and to improve my appetite and sleep. The fear of catching cold

is groundless; for I have often protracted my walk home, to inhale a little longer the coldest air of winter, without ever being the worse for it. The advocates of the Turkish bath state that it is so efficacious that no disease can resist its influence, and so harmless that it can do no mischief. From the manner in which the heart thumps against the chest when I remain for a few minutes in a room heated to 170° F., no one will persuade me that the Turkish bath is not calculated to do mischief in organic diseases of the heart, or where there is a tendency to congestion of the brain and large vessels: in cases of confirmed consumption it has increased the frequency of hæmoptysis, so I think it very injudicious for invalids to take Turkish baths without medical supervision.

In the Turkish bath the whole organism is saturated with heat, which causes the more rapid circulation of the fluids that move sluggishly in the depth and breadth of our tissues. The kneading of the muscles increases nutritive processes in innumerable capillaries; the shedding of the outer coats of epidermis excites the entire cuticle and assists the depuration of the blood. The result is a loss of weight, which is soon made up by an increased activity of digestion and nutrition; and it is this acceleration of organic processes which suggests the hope that the Turkish bath will be found useful in many constitutional complaints, by combining it with judicious food and medicines, so as to constitute a species of *medical training*; for, if a jockey can lose a stone by remaining in the bath three or four hours for several consecutive days, eating little and drinking less, it stands to reason that medicine might adopt the same process of training to renovate the diseased constitution. For the last four years I have watched the influence of a high temperature on the shampooers, who remain in the bath about twelve hours a day, and they are strong, active men, seldom stout, but in good condition. One, who weighs 13 stone, loses about 10 lbs. a day in the bath, which loss is daily compensated by food, water, and other fluids; the same man has lost as much as 13 lbs. in the day, by stopping four hours in a very hot room, but immediately afterward he walked five miles with perfect ease. Lest it should be supposed that these are exceptional cases, I may mention having met with gentlemen, who have taken the bath every day for six weeks, and that it rather increased than diminished their strength. I have entered into these particulars to jus-

tify the assertion that every hospital should have a Turkish bath attached to it.

The application of the Turkish bath to the treatment of uterine affections is very limited, and I advise my patients not to use a higher temperature than 125° F., which can do no harm; and those who take it as a luxury, or as a substitute for exercise, should not exceed that degree of heat. When neuralgia of the pelvic nerves survives inflammation and ulceration of the neck of the womb, the half-pack is useful, and Aran used to give his patients a course of twenty douches of cold water on the loins, the body being previously brought into a state of sudation, by sitting over a spirit-lamp. The Turkish bath, twice a week, is useful in such cases. In chronic inflammation of the body of the womb, there is often a state of languor and debility, that predisposes to relapse, and I have found that Turkish baths, taken once or twice a week, brought up the vital powers to the utmost limit of their capability in the shortest possible time. My worst cases of uterine inflammation—those accompanied by obstinately distressing pain or singular nervous symptoms—have occurred in women who had a deficient action in the skin, who were always cold, and never perspired. This indicates the Turkish bath, and in some cases it was useful, though not borne in others. The treatment of chlorosis is proverbially tedious, and may be greatly curtailed by combining steel with the occasional use of the Turkish bath. Those who return invalided from India, will find benefit from the Turkish bath, taken once a week or ten days, for this will assist medicines to keep in check the tendency to congestion of the internal organs. I have ordered the Turkish bath to remove fat from stout and unhealthy women, combining it with abstinence from farinaceous and oleaginous food, and the endurance of thirst. "It is the drink that makes the weight," said a trainer to me. The salutary effects of hot-water bags to the lumbar region, to control menorrhagia, will be noticed elsewhere.

CHANGE OF AIR.—There is sterling philosophy in the popular belief in the efficacy of change, for it is capable of curing half the minor ailments to which we are liable. The idea is thoroughly English, for the French equivalent, "*aller aux eaux*," embodies the notion of medicine with that of change. Man degenerates when confined to one air, one food, one occupation, and one idea; with change, his powers expand, and the most versatile are the most

powerful. Change of air means change of habitation, water, food, habits, and mental associations; and so great is the utility of change, that, rather than have none at all, it is better for a man to remove occasionally from a healthy to a less healthy set of influences, provided the stay be not too long. Healthier conditions are generally sought for in change: the lungs obtain purer air, the appetite is sharpened by new food, the imagination is enlivened by new scenes and faces, late hours are changed for early rising, and the cares of home for the freedom from home duties. Such are the circumstances that give such tonic influence to change of air; and their enumeration is useful, since to them is to be attributed a large share of the benefit derived from travelling, seaside residence, mineral waters, hydropathy, and even from marriage.

TRAVELLING.—Travelling is change of air multiplied by change of air, and by the numerous benefits ascribed to it; but one should travel with prudence, for, if countries are "*done*" with furious haste, the mind is often overstrained, and the strength exhausted, in a way more calculated to cause relapses of chronic uterine affections, than to promote their recovery. Those who, in autumn, pass like a shot from England to Italy, often suffer from severe bilious attacks, which they would have avoided by travelling slowly; so that the body may pass gradually from a cold to a warm climate. Railway travelling seems to be more trying, to delicate women, than the old modes of locomotion, for it tempts the invalid to overtax her strength: it requires her to start punctually at inconvenient hours, and often shakes her unmercifully to the journey's end.

SEASIDE.—Seaside air contains more ozone, and is mixed with saline particles, by which the skin and lungs are beneficially influenced. Sea-water may be used in the sponge-bath, alone, or with one-half of spring-water. It may be also occasionally taken as a vaginal injection, and hot sea-baths can be obtained for those who are too weak to bathe in the open sea. Sea-bathing is an admirable tonic, though its action is not always the same; for how different it is to stew for hours in the hot brine of the Mediterranean at Biarritz, or to plunge, for a few minutes, in the bracing billows of the Atlantic! The former might suit those who have slight powers of reaction; but the latter is most beneficial to the generality of women. There is virtue in all living water, and it is freely imparted to those who seek tone in its bosom; even

river-baths are of great value; and, perhaps, one day, there may be seen in the Thames, large, well-conducted floating-baths, similar to those in Paris, where so many chlorotic girls recover their health. Brill's swimming-bath for women, at Brighton, is an excellent institution. Whether the patient merely plunge into the sea, receive the shock of the coming billow, or swim, she should keep to the golden rule of stopping within the limits of her powers of reaction; and not think that, because it is good to stay five minutes in the water, it would be better to remain an hour.

MINERAL WATERS.—If change of air and travelling benefit the health of those who have been long suffering from uterine disorders, it is obvious that a residence at any of the mineral watering-places will serve the same purpose. This is why patients, suffering from chronic inflammatory affections of the womb, will often recover at any kind of spa. Dr. Willemin, who practises at Vichy, is convinced that it is better than any other watering-place for chronic uterine affections; but, with admirable candor, he quotes the opinions of some twenty-four hydrologists of France and Germany, each maintaining that his particular spring is the most efficacious for the same complaints. Drs. Petit and Willemin own, that Vichy is useless in the acute stages of uterine disease, and the former admits the necessity of returning to Vichy *for several successive years*. I can quite understand, that it may improve the health of those who suffer from dyspepsia, but I do not believe the Vichy waters have any specific influence on uterine affections. Steel and sulphur are useful in the treatment of chronic uterine diseases, the one as a tonic, the other as an alterative and skin-improver; and, I believe, the mineral waters that contain these remedies are the most useful, particularly when the springs are thermal. I should, therefore, rather recommend Tunbridge Wells, Spa, Harrowgate, or Aix les Bains, in Savoy, at which latter place will be found very active mineral waters, which are called sulphureous: but they differ from others of the same name by the hydro-sulphuric acid being *free*, instead of combined with soda or any other base; so that, if exposed to the air for a time, there would remain a saline mineral water, which may be given in large quantities as a purgative. The temperature of the water is high, and the establishment contains the most approved appliances of modern hydrology. The fact of its being situated at two days' journey from London, and within a few hours' drive from Lyons, La Grande

Chartreuse, Geneva, and the splendid scenery circling Mont Blanc, enhances its value. Another pleasant health tour is to spend three weeks at Ems, where the alkaline water is well calculated to remove congestive irritation of the liver and gastro-intestinal mucous membrane, and to proceed afterward to the chalybeate waters of Schwalbach, stopping there for a month or six weeks.

MENTAL TONICS.—Mental inactivity is a positive debilitant of the human frame, and nutrition derives a healthy stimulus from exertion. Many women, particularly if unmarried, become really ill, from having nothing to do, and these can be cured by some engrossing occupation. In whatever sphere they may be placed, they should seek the benefit of this tonic, so far as their strength will permit. The sight of vigor is positively invigorating, and debility is contagious, a circumstance that explains why some patients cannot recover, until they are removed from home, and from the constant society of valetudinarians. The depression of adverse circumstances sometimes prevents the cure of chronic uterine affections, of which I have given clinical proofs in another work. It is difficult to calculate the power of that anxiety which is at hand to close the day, is ever ready to face one, on waking from troubled sleep, and to accompany its victim through each long, tedious day; anxiety that poisons every mouthful of food, passes into the blood, circulates with it, and incessantly revolves round the human body; anxiety, that spoils the nutrition of every tissue, becomes part of the frame and more particularly of the nervous system, responding inordinately to the mildest pathological stimuli, and seeming to give spontaneous birth to nervous disorders, as surprising by their pertinacity as by their independence of rule.

Success is another tonic of tremendous energy, for the wounded conqueror escapes the typhus which decimates the vanquished. Professional men, of strong constitution, try London for a few years, and retire with shattered health, ruined, not by the smoke, nor by the fogs, but by the depression which, like Prometheus' vulture, gnaws at their vitals day by day; while success has enabled many a weakly frame, if tempered with common prudence, to live on, for years, in the midst of vast labor. For women, success is marriage; and as our social state prevents the marriage of thousands of healthy, blooming women, it follows that while they continue to perform their part in the routine of daily duties, the canker disappointment often gnaws their vitals, and saps their

strength in the innermost machinery of the nervous system. In marriage, considered as a tonic, we must take into account this mental satisfaction of success, the emotional stimulus of affection given and returned, the physiological stimulus of matrimonial intercourse on the whole frame, and the complete change of circumstances in which the bride is placed. An enlarged field of observation convinces me that the profession has, in no wise, exaggerated the advantageous influence of marriage on women, and that its dangers are infinitesimal as compared with those of celibacy.

CHAPTER IV.

SEDATIVES.

UNDER this head I shall treat of the medicines and measures by which we soothe pain, and other morbid excitements of the nervous system. The pain that gives warning that the integrity of some part of our body is menaced, is a blessing, and requires no sedatives; but pain may be out of all proportion to the amount of impending mischief; it may torture, without our being able to detect any structural change. Indeed, man's greatness is shown in a lamentable fashion, by the great variety of pains by which he may be tortured, and by his almost boundless power of enduring their fierce assault. Yet He who permitted this, has not left us without remedies. The assuaging of agony by a small quantity of medicine, is as great a wonder as pain itself, and, in our own time, the sting has been taken from the curse, by the discovery of chloroform, for which one of our greatest men will ever rank, next to, if not before, the discoverer of vaccination. While every nerve-fibre is liable to pain, the great nervous centres, the cerebro-spinal and the ganglionic, may suffer, in various additional ways, so as to compromise the healthy action of the mind.

Besides pain, there are innumerable varieties of nervousness, which are referred to the cerebro-spinal system; some well-defined, like epilepsy and insanity, affecting both sexes; hysteria and catalepsy being almost always met with in women. In some of the works that have been lately published, it seems to me that hysteria has been represented as more frequently met with among men than is generally admitted. Landouzy, after carefully studying thirty cases, recorded as hysterical by well-known writers, only admitted four as genuine cases of hysteria. I have met with only one case of it in man, which can be found in my work on "Ova-

rian and Uterine Inflammation;" but I have sometimes seen men, with ill-balanced nervous systems, cast off the rail by overwork or injudicious work, by continence when sexual instinct was strong, by sexual excesses, masturbation, or spermatorrhœa. In these men, there was a certain amount of feminine mutability and a want of the average power of volition, with erratic and singular pains and other local nervous symptoms; but there was not the rapid passage from joy to tears, nor the globus hystericus. Such cases may be fairly said to be allied to hysteria; but, if all anomalous cases of cerebral disturbance that do not well fit into any other nosological pigeon-hole, are to be pitched into the hysterical, it bodes ill for the progress of cerebral pathology.

Hysteria and catalepsy are evidently diseases of the cerebro-spinal system, but the ganglionic nervous system has much to do with their generation. The physiology of the ganglionic nerves is only just beginning to be studied, and its part in the production of diseases is not yet made out; it must, however, be large, if we judge by what occurs, not unfrequently, to healthy women who cannot nurse with impunity, or who have nursed too long. The ganglionic nervous centre then becomes the seat of strange sensations; not pain, but a depressing, irritating, exasperating sensation, more difficult to bear than pain, depriving active women of all power of exertion, causing a despondency that stimulants and food scarcely alleviate, driving some mad, and many more to the verge of insanity. I have attended some, who could not dine with their children, for fear of the murderous thoughts suggested by the sight of the knives; a wonderful proof of how much the ganglionic nervous centre is able thoroughly to disturb the whole working of the nervous system; and it does so, to a less degree, in chlorotic women, in those who suffer from the change of life, and in the hypochondriasis and insanity of both sexes.

Hysteria enters so largely into the morbid history of women, that it is a pity pathologists should be so much at variance respecting its nature and its treatment. "*Omne ignotum pro hystericico*," seems to be the motto of many medical practitioners, for I hear them setting down, as hysterical, any singular nervous symptom that women may present. I meet, in consultation, men of eminence in my own line, who call hysterical, the vomiting, or any other symptom that may occur in the course of uterine inflammation; but, with many others, I hold, that hysteria generally has an

excentric cause, and that this excentric cause is, for the most part, some ovario-uterine disturbance, which can, however, only induce hysteria when the nervous system is predisposed to that complaint.

While those who have made diseases of women the study of their lives are divided upon hysteria, Dr. King Chambers informs us that the womb has no more to do with hysteria than the liver or any other organ, and that hysteria is nothing but defective volition. I cannot understand how these views are supported by the cases he gives in "The Renewal of Life," for in the first, hysteria coincided with first menstruation, and was kept up by amenorrhœa: in the second, hysteria was the result of a debilitated nervous system, being excited by sexual organs, unequal to the double duty of lactation and menstruation. The third case does not require description, as the state of the generative functions is not even mentioned. Another esteemed friend, Dr. Russell Reynolds, in treating of hysteria, in his valuable "System of Medicine," somewhat agrees with Dr. Chambers's opinions, for he states that, as far as his experience goes, "it is the exception and not the rule, to find any definite malady, or indeed a definite complaint in this direction, while in a vast number of cases, there has been absolute health in all particulars relating to the reproductive organs." He, of course, admits that morbid conditions of the reproductive organs do coincide occasionally with hysteria, but "*he believes they are more commonly the effects of hysteria than its cause*;" an opinion that I do not remember having previously met with, and one I should not have thought of noticing had it not been put forth by so excellent a pathologist. The best way to clear up these differences of opinion is to state, not what one has read, but what one has seen and thought; and in the following rapid sketch I will try to condense the conclusions to which I am led, from the study of hysteria for the last thirty years:

HYSTERIA.—To account for hysteria, I admit that a peculiar predisposition of the cerebro-spinal system is reacted on by the ganglionic disturbance, usually determined by some morbid condition of the ovario-uterine organs. We cannot define this predisposition, except by saying that women are evidently more emotional than men, more liable to the rising of that lump in the throat, which is the prototype of "globus hystericus." Of this predisposition, we also know that it depends on a transitory condition of the nervous system, insomuch as, while the sexual stimu-

lus of hysteria may be more or less persistent, there may be only one attack of hysteria, or few attacks at long intervals. Neither can we define the nature of the sexual stimulus that evolves hysterical manifestations from the nervous system, but we know it does not depend upon extensive lesions of the sexual organs, for ovarian abscess and chronic tumors do not cause hysteria, neither do acute metritis or cancer, whilst hysteria is often associated with sub-acute or chronic inflammation of the ovaries and womb. We also know that inflammation of these organs is in no wise necessary to bring on hysteria, for it very frequently accompanies their congestion and irritation at menstrual periods, at puberty, and at the change of life; so we are led to conclude that the starting point of hysteria is, in most cases, an ovarian aura, like that preceding an epileptic fit. In two patients, by pressing on one of the ovaries, I have unexpectedly caused hypogastric pain, epigastric disturbance, and globus hystericus; symptoms followed by a fit of hysterical convulsions. Romberg and Schulzenberger have recorded similar cases, pressure of the finger on the ovary producing an hysterical attack as easily as sound is produced by striking the keys of a piano.

DIAGNOSIS OF HYSTERIA.—It requires no medical knowledge to diagnose an hysterical attack, but the diagnosis of all other hysterical manifestations is deplorably loose. To call hysterical every symptom that coincides with chronic uterine disease, is as much as to affirm that uterine disease has no symptoms apart from hysteria, while, on the contrary, it is known that most of those who suffer from subacute inflammation of the womb, have back-pain, headache, nausea, vomiting, dyspepsia, without a trace of hysteria. At the same time, the coincidence of chronic uterine disease with hysteria is sufficiently frequent to render it unpardonable, on the part of the practitioner to omit ascertaining whether hysteria really depends upon disease of the sexual organs, when there are symptoms to render this probable. To dismiss a case, in an off-hand way, as hysterical, is most unjustifiable, for the patient continues to suffer, although the fears of her friends are allayed. Say to the friends, "It is only hysterical," and the question is settled. A fixed pain in the back will not be further inquired into, although irregular menstruation and vaginal discharges may point to the womb as the seat of disease, and the patients will be told that it is only a question of volition, that they can get well if they like, that

they have only to exert themselves; and they will be stuffed with beefsteaks and porter, and drenched with stimulants and tonics. If they cannot walk, they are said to suffer from hysterical backs. I have attended some half a dozen cases, so-called, whose backs had been blistered, and who had been kept lying flat upon them for one, two, or three years. These patients were really suffering from confirmed uterine inflammation, and they recovered so soon as this was cured. It is very sad when all the petty restraints, privations, and annoyances that constitute invalid life are, for years, to be dovetailed into the healthy daily habits of a family; sadder still, for patients and their friends to awake to the conclusion that some of the best years of life have been wasted in the following out of useless prescriptions; but saddest of all, if it becomes apparent that hysteria has been to the medical adviser a "will o' the wisp," directing his attention from some internal source and primary cause of nervous disorders, which might have been, years ago, cured with comparative ease, but has now become deeply rooted in a debilitated constitution. I have so often seen this loosely-given diagnosis of hysteria do such irreparable damage to the health of young women, blast their chance of happiness, and cause endless trouble and vexation to their friends, that I detest the very word; but I am obliged to use it, for as words are the landmarks of science, no author has a right to displace them; all he can do is to define them with all possible precision.

Hysteria is a perturbed state of the nervous system; it does not so much manifest itself by paralysis or convulsions, anaesthesia or hyperaesthesia, despondency or exhilaration, angelic ecstacy or demoniacal mania, as by the motiveless advent of one of these states, and the rapid passage of one into another, to vanish again without any permanent damage to the system; in fact, mutability is characteristic of hysteria because it is characteristic of women—"La donna è mobile." "*Varium et mutabile semper femina*," says Virgil.

When there have been hypogastric pain or distress, epigastric suffocation, choking sensations, and a motiveless passage from laughter to tears, or the reverse, hysteria is evident.

Of all the symptoms of hysteria, the most important is, "the globus hystericus;" when well marked, it is pathognomonic of hysteria, and if its absence coincide with that of several of the other symptoms I have enumerated, I do not see how a practi-

tioner is justified in calling the case hysterical. The diagnosis will be confirmed by the fact of the patient having previously had one or more hysterical fits, but, as the predisposing cause of hysteria is a *transitory* state of the nervous system, it is a very great fallacy, because a patient has had hysterical fits, to set down as hysterical whatever obscure nervous symptoms she may present in after-life. For instance, a lady who, at the change of life, suffered from severe and constant pain in the right side, was considered hysterical because she had suffered from hysterical fits some years before. She was therefore told to exert herself, and shake off the pain, but this she could not do, and found relief from large doses of morphia. When she died, a few years later, an abscess was found in the liver. I call back-pain hysterical, when it cannot be explained by any structural lesion of the back itself, or of the abdominal viscera, and when it coincides with "globus hystericus," and other signs of the hysterical diathesis; or if, with slight structural mischief, there are inordinate back-pain and evident signs of hysteria, then I say the back-pain is hysterical, and I reason in the same way with vomiting, or with any other of the ordinary symptoms of uterine affections. Given the hysterical diathesis, and any symptom, however strange, may be accepted as its manifestation; but neither the strange nor the ordinary symptoms of uterine affections should be set down as hysterical unless the diathesis be revealed by evident signs.

THERAPEUTICAL INDICATIONS.—1st. To blunt the sensitiveness of the nervous system by sedatives and anti-spasmodics, and to strengthen it by metallic and other tonics, and by hygiene. 2d. To cure all diseases of the sexual organs, and save the nervous system from visceral irritation, by good hygiene, at menstrual periods; or by marriage, when the sexual organs crave for their legitimate satisfaction.

CATALEPSY.—Like hysteria, this affection is most frequently met with in women, and the same mild forms of ovario-uterine disease which so frequently cause hysteria will cause catalepsy if the patients are predisposed to it. I have, more than once, accidentally made a patient cataleptic by pressing on the left ovary, and, after knocking the ovarian region against the corner of a chest of drawers, another patient remained cataleptic for many hours.

A tall, handsome lady, in whom I noticed a failure in the power of attention, and a frequent dreamy look of the eye, that she would

shake off with a slight twitch of the body and jerk of the head, had been married several years, and was anxious for a family. Finding an undersized womb and a contracted cervix, I dilated it, and, although this gave no pain, ten days after all treatment had ceased, a violent hysterical attack came on, catalepsy ensued, and frequently recurred during the following fortnight. There was considerable pain in both ovarian regions, and as this abated the patient got better. Opium was prescribed in suppositories by the rectum, and two grains of valerianate of zinc, with one-eighth of a grain of extract of belladonna, were given every fourth hour. I learned that, when in Canada, a cataleptic fit had occurred while the patient was suffering from an abscess in the neck, and menorrhagia has lately twice brought on a similar attack. One of those strangely-constituted women, who were made pythoneses in the olden time, and are now mediums or powerful mesmerizers, had already suffered fifteen years, when, in her twenty-fifth, she consulted me. A host of nervous sufferings and uterine symptoms coincided with, and seemed partly to depend upon, an inflamed and displaced womb. This had been recognized and treated, but as there was still a congested and ulcerated cervix, I touched it with the solid nitrate of silver. This aggravated all the abdominal pains, and induced a cataleptic state, which, for some days, recurred about the same time every evening.

I reason upon these cases as I did with hysteria, and I apply the same mode of reasoning to those very exceptional instances, in which epilepsy and insanity are caused by morbid uterine action, of which I have given several good illustrations, considering that they are caused by perverted sexual influences; and, applying the same views to insanity, I say that, in all cases, there is a ganglionic aura arising from some important viscus, the liver or the bowels, for instance, which, travelling along the sympathetic nerves, becomes intensified in the great ganglionic centre, reaches the brain, and deranges those of its functions that manifest the mental faculties. I only reassert the belief of Hippocrates; and I think that the correctness of this view of insanity is made apparent by studying the nervous symptoms of menstruation, as I have done, in my work "On Ovarian and Uterine Inflammation."

ADMINISTRATION OF SEDATIVES.—Sir W. Ferguson lately removed, for the second time, a large amyloid breast from a young unmarried lady. and the raw surface might have measured thirty-

six square inches. Two days afterward there was extensive sloughing at the edges of the long wound; the pulse was above 140, and there was great nervous excitement. Although opium could never be well borne by this patient, we agreed that life depended on its exhibition, so she was ordered one grain of acetate of morphia and one of opium every fourth hour; this was continued for six weeks, till the wound healed. In three days, opium, thus given, had cleaned the wound, reduced the pulse to 125, the usual standard, and calmed the nervous system. The action of the opium on the nerves of nutrition was visible in the improved condition of the womb. Was it by improving the nutrition of the nervous tissue that opium also calmed the brain?

If, instead of a *stimulant* sedative like opium, we watch the action of a *depressing* sedative like prussic acid, the pulse will lower its usual type of strength, and paleness and coldness of the tissues will show that the nerves of nutrition are debilitated. Is it then a similar diminution in the rate and energy of nutrition in the brain, that can account for the marked subsidence of cerebral excitement that follows the exhibition of prussic acid?

At all events, we have no sedative that acts exclusively on the cerebro-spinal or on the ganglionic nerves; we have no sedatives endowed with specific action on one set of organs only, so that to medicate the part we must influence the whole system. There are many ways by which we are able to direct the chief action of sedatives to the diseased tissues and their offended nerves, so that when it is urgent to give sedatives two questions ever arise: What dose does the disease require? What dose will the brain bear?—and, in many cases, the complaint requires what the brain will not bear.

Neuralgia can generally be cured by the systematic treatment of the originating disease, though it often specially indicates the exhibition of sedatives; and then the question arises, whether they should be exhibited so as to act first on the system, or whether they should be directed to the seat of pain. Doubtless a strong opiate, fully affecting the nervous system, has been known to remove the pain localized in some well-circumscribed spot, but, in many cases, it only procures a small abatement of the suffering, and the same dose cannot be repeated sufficiently often to cure neuralgia, without locking up the internal secretions, and entailing a state of semi-narcotism. For these reasons, when sedatives are used in

neuralgic affections, they should be applied as near as possible to the seat of pain, which should be fomented with sedative fluids, and rubbed with sedative ointments and embrocations, leaving them on the skin, so as to envelop the extremities of the sentient nerves in a sedative atmosphere. Opiates are applied to the denuded skin, and they are now often injected, with benefit, into the tissues surrounding the agonized nerve. Although this principle is generally accepted, it is not sufficiently followed in the treatment of diseases of women, and I propose showing what good results may be obtained, by putting our practice in harmony with well-grounded theory. If a patient suffer, habitually, from nervous and uterine irritability, from bearing-down pains, vesical tenesmus, and severe pains in the sacrum and thighs, the necessity for sedatives will strike every one. Most medical men will give them by the mouth, either in such moderate doses, that the patient's sufferings will be long in abating, or, should the quantity be sufficient to assuage the pain, the drugs may act so thoroughly on the system, that it would take some days to recover from their poisonous effects. Afraid of this, others would apply sedatives to the pelvic regions or the loins; but, before relief could be given, much time must elapse, though, if the fomentation had been associated with sedatives given by the rectum, relief would soon have been afforded, without any subsequent ill effects, because the remedy, having been applied directly to the diseased nerve, the dose could be proportionate to the intensity of the pain. Is it not, then, better to give sedatives by the rectum, or to inject them under the skin, than to leave a patient in an habitual state of suffering, or with the occasional variation of an over-dose of opium? In severe cases of uterine or ovarian neuralgia, an accurate examination must be made, for the neuralgic affection has been often caused, or kept alive, by evident ulceration of the neck of the womb, which can be seen but not felt; and when this is cured by surgical treatment, the neuralgia vanishes. At other times, a patient suffers greatly from abdominal neuralgia and slight uterine disease which I have speedily cured by cooling injections, and slight applications of a strong solution of nitrate of silver at stated intervals, nevertheless the patient continued to suffer, until the sentient nerves had lost their excess of sensitiveness, by persisting in the topical use of sedatives. Sir H. Holland truly observes, that "where true inflammation has been removed, and where irritation or nervous sympathies are the sources

of the distress that is attached to the spine and limbs, it is singular what good may be effected by opium, externally applied—not, however, in the careless and inefficient way which is common with external remedies, but sedulously, and with a sufficient proportion of opium in the forms employed.” The pelvic pains arising from uterine affections often make life miserable by their intensity and their long duration, and it is possible to remove or greatly diminish them, by administering sedatives, in fomentations, lotions, liniments, ointments, and plasters, as has been stated in the preceding chapter.

ENDERMIC METHOD.—This is a well-known mode of exhibiting the potent vegetable alkaloids, one or two grains of acetate of morphine, for instance, being sprinkled on the raw surface of the blistered skin, once or twice a day, for a few days.

HYPODERMIC METHOD.—I have found benefit in many troublesome cases, from the injection of sedative fluids into the cellular tissue, according to the plan suggested by Dr. Alexander Wood. The instrument consists of a glass barrel, with a pipe made of silver, which screws on and off of the barrel, the end of the pipe being sharpened like a needle, and perforated on one side by an oblique opening, through which the drops of the solution are expelled. Having charged the syringe with the narcotic fluid, hold it, in the right hand, at the junction of the barrel with the pipe, and with the left take up, between the finger and thumb, a fold of the skin of the patient; having made it tense, let the point of the syringe be passed, perpendicularly to the surface of the skin, with a quick, steady movement, and sufficiently deep that the point can be distinctly felt under the finger. The piston should then be pressed very slowly down with the thumb of the right hand, and the escape of the fluid, into the areolar tissue, will be indicated by a circumscribed elevation of the epidermis. After the instrument is withdrawn, a small strip of plaster should be placed over the aperture caused by the needle. It has been recommended to freeze the skin before this little operation, but the freezing of the skin is often more painful than its perforation, and would help to frighten nervous women. If the hypodermic injection has been very painful, either the instrument was blunt or the operator awkward. If, instead of passing under the skin, the needle is made to burrow through the substance of the skin, as once occurred to me, on operating where the skin was too tightly drawn over a pelvic swelling, there may be very great pain.

It seems to be well ascertained—1. That equal effects follow distant and local injections in neuralgic cases. 2. That by distant injections, in various places, the ill-effects of repeated local injections are avoided. 3. That medicines act more rapidly when thus injected. 4. There is the certainty that the remedy will not run the risk of being decomposed by food, secretions, or fæces, as may be the case in the digestive tube. 5. There is the possibility of introducing *safely* into the *circulatory system* a much larger dose than by other methods. This last advantage is the principal one in the use of the hypodermic method against neuralgia, and explains how neuralgic patients, who had taken apparently large doses of narcotics by the mouth, with no permanent and even no temporary marked benefit, are sometimes completely cured by one or by a few hypodermic injections of narcotics.

HYPERSTHENIC SEDATIVES.

CHLOROFORM.—The inhalation of chloroform, until the attainment of complete insensibility, is sometimes necessary to thoroughly investigate uterine disease, in highly hysterical women, where it would be otherwise impossible to do so; but, it would be very wrong to seek in chloroform an excuse for roughness and want of patience, and thus to use it where it was not wanted. Chloroform has also been given to solve the spasms of the abdominal muscles, and to cause the sudden collapse of what was at first supposed to be an ovarian tumor. I have been told by my friend, Dr. Duncan Stewart, that, in dysentery, which, in India, so often causes miscarriage and death in childbed, the inhalation of chloroform, so as to affect the brain without producing insensibility, has been found invaluable, when other remedies have failed, to allay the unconquerable instinct that impels patients to waste their failing energies in useless efforts. I often follow the same plan to relieve tenesmus, whether it affects the womb, the bladder, or the rectum, and also for vaginal pruritus when very distressing. I have likewise ordered it in a variety of anomalous cerebral symptoms of a neuralgic character, with excellent results. I pour one or two drachms of chloroform on the corner of a pocket-handkerchief, hold it to the patient's nostrils, and withdraw it on the first intimation of loss of consciousness. When the patient has recovered her senses, I give another dose of chloroform in the same way, and so on, until the violent pain or intense nervous exasperation is subdued, and the

patient is quiet and inclined to sleep. In this way, I have often quelled, in twenty minutes, cerebral symptoms that had lasted for hours, when opiates and other remedies only made the patient worse. Chloroform often soothes when given internally, in a convenient potion, or in drops, when combined with tincture of lavender, and aromatic spirits of ammonia. Alone, it forms a good topical application, a small piece of lint being soaked in it, applied to the seat of pain, and carefully covered with oil-silk. It forms a capital ingredient of liniments; and what is sold as soluble camphor, or three parts of camphor dissolved in one of chloroform, is a good external remedy. Another preparation has been lately introduced, called gelatinized chloroform, which is made by pouring into a bottle two parts of the white of an egg and one of chloroform. It is dangerous to trust a patient with chloroform, for more than one death has been the result of a bottle of chloroform becoming uncorked in the patient's bed. A mixture of equal quantities of chloroform and spirits of wine is not open to the same objection. Dr. Head says, that dysmenorrhœa is to be cured by the injection of chloroform vapor into the womb, and the drug has been enclosed in capsules, which can be left in the vagina, like suppositories.

ETHERS.—All the ethers, sweet spirits of nitre, brandy, and the fluids of which it forms a part, are well-known sedatives.

BISULPHIDE OF CARBON.—The topical use of this remedy, and of the tetrachloride of carbon, is less known to the profession. These substances, as well as others, are used by Dr. Turnbull, of Paris, to effect very remarkable cures in the deaf and dumb, but I only wish to mention the fact that Sir C. Locock has found them useful in those neuralgic conditions of the brain which sometimes torture, for days, highly-sensitive women debilitated by disease. A teaspoonful of either drug should be sprinkled over the absorbent side of a bit of impermeable cloth, and this should be applied to the nape of the neck, or to the forehead and temples.

DIFFUSIBLE STIMULANTS.—These remedies, like liquid ammonia, only require to be mentioned.

OPIUM.—What has been already stated, shows that one cannot too highly estimate the value of this wonderful remedy. Its various preparations suit the many varieties of constitution, and the facility of their combination with other remedies—such as mercury, ipecacuanha, mineral acids—renders it available in the treatment of many diseases. For internal exhibition, I generally give

minute doses of the salts of morphia, sometimes large doses, and it is wonderful how little harm their long-continued use does to some persons. A lady, to whom I was obliged to prescribe three grains of acetate of morphia a day, to quell the pain of acute metritis, continued to take the same dose for five years, notwithstanding my desire that she should leave it off. This daily dose produced none of the well-known effects of opium-eating: it merely kept in check pelvic pains, sometimes causing cutaneous irritation, and the bowels never acting without enemata. During the last year, this patient has suffered much from heartburn, and has reduced the daily allowance of acetate of morphia to a grain and a half. I generally prefer the comp. ipecac. powder, or 20 minims of the solution of hydrochlorate of morphia, with 20 minims of ipecacuanha wine, which is equivalent to 10 grains of Dover's powder. I have found Dover's powder invaluable in some cases, where I had long refrained from prescribing it on account of the prevalence of nausea, which it did not, however, increase. Battley's solution and the bimeconate of morphia need only be mentioned; and the aqua opii of the Berlin Pharmacopœia is said to soothe without irritating.

When morphia is to be injected under the skin, the acetate of morphine should be rubbed up with just sufficient diluted acetic acid to render it clear, adding hot distilled water until one drachm of the solution contains ten grains of the acetate. The solution should be carefully neutralized with liquor potassæ, as its acidity is apt to give rise to troublesome irritation. No other local effects, but slight and transient tingling, have been found to follow the injection of the neutral solution. Different samples of this drug, even from the same laboratory, are found to vary in the amount of acid required to make a clear solution; the color of the solution, when first made, should resemble that of pale sherry; the solution becomes darker and acid by keeping.

The initial dose, under ordinary circumstances, for a woman, is from one-eighth to one-sixth of a grain of morphia. Alarming symptoms have arisen from the injection of one-fourth of a grain in a woman, and the details of the case were communicated to the Committee of the Medico-Chirurgical Society. A few other cases of poisonous effects from the injection of morphine are related, but from six to eight grains have been daily injected, for a considerable time, in cases of cancer, with only the effect of lulling the pain.

CASTOR.—Musk, castor, and sumbul are useful remedies, although some will think them ill-placed among sedatives. Castor was given by the rectum, by Aretæus, and, although an old remedy, it holds its ground in the new Pharmacopœia. Ambergris resembles castor, and is much used by perfumers; it is mixed with hashish by the Turks, and Brillat Savarin's eulogium of its effects made me try it. I give ten to twenty drops of the tincture, in a six-ounce mixture, and it certainly acts as a good diffusible antispasmodic.

VALERIAN.—This remedy still holds its ground, and the best preparation is the valerianate of zinc, of which I begin by giving a grain two or three times a day, combining it with two grains of henbane, or a quarter of a grain of extract of belladonna, in nervous affections associated with uterine diseases. It is well to begin with small doses, for all the salts of zinc are liable to cause or increase nausea.

APIOL.—The essential oil of parsley, sold in capsules, and given every two hours, so soon as pains of dysmenorrhœa begin, has acted like a charm in some cases of nervous dysmenorrhœa; but I have found it of little use when dysmenorrhœa depended on disease of the womb.

HYPOSTHENIC SEDATIVES.

HYDROCYANIC ACID.—This sedative suits many patients, and I frequently give it, or the cherry-laurel water, to quiet general excitement, pain, and sickness, but its action should be carefully watched, for it may very much aggravate cerebral neuralgia depending on a low state of the system.

DIGITALIS.—The well-known action of this remedy over the circulation may explain its utility in menorrhagia, as well as in any other active hæmorrhage; but the efficacy of digitalis in menorrhagia may perhaps be owing to its special sedative action on the womb. Analogy leads us to admit this, for M. Brugmans states, that "its influence on the generative organs of man is very powerful; it is only necessary to take it for four or five days, and complete flaccidity and loss of all virile desires will be produced." Dr. Stadion, of Kiew, also gives as one of the results of a series of experiments, "that digitalis is an energetic depresser of the generative system, and may, for a time, abolish all sexual desire."

VERATRIA.—I only prescribe it as an external application in neuralgia: internally it acts like digitalis, but more powerfully.

A patient, who suffers intensely from abdominal pain, the result of uterine chronic irritation, tells me that nothing gives her so much relief as the oil of *veratrum viride*, applied to the skin.

ACONITE.—The tincture of aconite is quite strong enough for medical purposes. Diluted with equal quantities of water, or even undiluted, lint soaked in it may be applied to the seat of pain and covered with oil-silk, but I do not use it except when other remedies lose their effect. I have seldom prescribed aconite internally, but it has been recommended by Dr. Marotte for menorrhagia, when it does not depend on organic disease of the womb; he, however, gave so untrustworthy a preparation, that his assertions require confirmation, and I must mention, that a friend of mine nearly poisoned a patient, with ten drops of the tincture of aconite of the London Pharmacopœia, given by the rectum. *Aconitia* was tried in three cases of neuralgia; but the local tingling which followed its subcutaneous injection was so severe, that the drug was considered unfit for this purpose.

BELLADONNA.—The dread of the singular hallucinations which it produces, when taken in poisonous doses, has too much prevented the internal exhibition of a valuable drug. A knowledge of the beneficial results obtained in epilepsy, by Dr. Debreyne, led me to give it in its kindred affection, hysteria, and I prefer the fresh extract of belladonna for internal use, beginning with a quarter of a grain twice a day; but those who give atropia internally should remember that life has been endangered by the sixtieth of a grain of valerianate of atropia, given three times in thirty-six hours. A study of the physiological action of belladonna has led Dr. Harley to regard the plant, in a new light, as a curative agent. First and foremost, it is a direct and powerful stimulant to the sympathetic nervous system, or, in other words, to the heart. Secondly, it is a potent diuretic. Thirdly, by virtue of its stimulant action on the circulation, it is a means for increasing the oxidizing processes within the body. Its influence as an anodyne is so fully acknowledged, that I shall omit consideration of this action upon the present occasion.

Dr. Harley's researches are conclusive as to the fallacy of considering belladonna as the antidote of opium, and he has explained how the belief arose. He concedes, however, that belladonna

possesses an antagonistic influence to some of the earlier effects of the operation of opium, and explains that "the first effect of opium, in many animals as well as in many of human kind, is a derangement of the vagus nerve, resulting in nausea and retching, faintness, and depression of the heart's action. The dog invariably vomits within five minutes of the subcutaneous use of morphia; and, in my own practice, I have had four or five patients in whom the subcutaneous use of seven drops of laudanum, or of one-twelfth of a grain of acetate of morphia, has produced faintness, nausea, ending in vomiting and retching, with intervals of delirious somnolency for eight or nine hours. By repeated experiments upon these individuals, I have found that the previous or simultaneous use of a small dose (one-ninety-sixth of a grain) of sulphate of atropia entirely prevents these distressing and often alarming symptoms; and I have even arrested them after they have been fully developed by the subsequent use of the atropia. It is by virtue of its powerful stimulant effect upon the sympathetic nervous system, that the derangement of the vagus nerve, causing the above-mentioned symptoms, is overpowered. This is a most important fact; for, by the help of atropia, we may, I believe, bring *all* individuals alike under the beneficial influence of opium."

Thus, by combining opium and belladonna, we intensify the action of both drugs, and do away with some of their injurious effects; a satisfactory explanation of the practical fact that it is useful to combine opium and belladonna in pills, morphia and atropia in suppositories, ointments, and in liniments. Externally used, I believe belladonna to be the best remedy we possess against tenesmus, whether the womb, the anus, the urethra, the nipple, or the eyelid be the seat of forcing action. I have applied cotton wool soaked in a solution of sulphate of atropia to the neck of the womb, to quell the forcing pains of uterine tenesmus. The extract of belladonna, combined with extract of hyoscyamus, makes an excellent suppository to be introduced into the bowels; it soothes without constipating, like opium; indeed, in France, the extract of belladonna, in very small proportions, enters into the composition of some purgative pills. To avoid a dirty discharge, it is best to use sulphate of atropia for vaginal suppositories.

In cases of neuralgia, atropia, when administered by subcutaneous injection, is a very valuable remedy; and, in some cases, where morphia procured only temporary relief, the benefits derived

from atropia injections were permanent. Very decided results were observed to follow the use of minute doses of this drug, used in this manner. A larger dose should be given in cases of severe neuralgia; and the most satisfactory results were found to follow when decided toxical effects were manifested. The discomfort, the excitement, the dry mouth, and the occasional disagreeable action on the bladder experienced during the action of this drug, present a considerable hinderance to its general use. The cases in which atropia was used with advantage were those of local neuralgia, lumbago, and sciatica. The initial doses were the eightieth of a grain for a woman, and the sixtieth for a man; but, in cases of severe neuralgia, larger doses may be taken with safety. The largest dose given was one-tenth of a grain. It is often useful to combine morphia and atropia, and, to fulfil this object, one-sixth of a grain of sulphate of morphia, with one-thirtieth of a grain of sulphate of atropia, may be dissolved in distilled water, and then injected.

INDIAN HEMP.—This is a wonderfully useful drug to quell neuralgia, mental excitement, and even metrorrhagia; it often agrees when opium is not tolerated, and it does not constipate. It is said to be, with chloroform, the principal ingredient of chlorodyne, which I have found useful. I give Indian hemp in pills, beginning with a quarter of a grain, and soon increase the dose to one grain, to be taken at night. The action of the drug varies very much according to the establishment where it is dispensed, but Mr. Squire's can be depended on.

HENBANE.—The trustworthy researches of Dr. Harley go far to prove that, in its action upon the system, hyoscyamus appears to be intermediate between opium and belladonna, possessing as it does, on the one hand, powerful somniferous properties second only to opium itself, and, on the other, an influence upon the sympathetic nervous system, as indicated by the pulse, secondary only, when given in larger doses, to that possessed by belladonna itself. Compared with belladonna, it is distinguished by a preponderance of deliriant or somniferous properties. Compared with opium, it agrees, on the one hand, very closely with that drug in its cerebral effects, provided we take a wide view of the operation of both medicines upon the system; while, on the other, its influence upon the pulse, upon the mucous membrane of the mouth, and upon the pupil, places it in strong contrast with that drug. In addition to

its cerebral and sympathetic effects, henbane has a powerful depressant influence upon the motor function, and thus comes into relationship with conium. If Dr. Harley's statements are confirmed, the combined operation of hyoscyamus and opium presents some interesting features. 1. Opium prolongs and intensifies the effects of hyoscyamus, even to producing an acceleration of the pulse some fifteen or twenty beats for an hour or more. 2. Hyoscyamus increases the hypnotic action of opium, and, to a certain extent, is able to prevent the derangement of the vagus nerve, which is frequently the first effect of opium. 3. Opium, given in combination with hyoscyamus, does not prevent the elimination of hyoscymia by the kidneys.

A fluid ounce of the *succus hyoscyami*, of the common tincture, or fifteen grains of good extract, are equivalent in effect, says Dr. Harley, to the fortieth of a grain of sulphate of hyoscyamia, injected under the skin. I must, however, maintain my belief that smaller doses are often very efficacious. Women who have for long been very nervous, and with little and irregular sleep, have slept well and been less nervous after taking three grains of the fresh extract, as a pill at bedtime. If six grains of extract, given at night, do not sufficiently soothe the system, I prefer to combine the henbane with Dover's powder.

CONIUM.—Of this historic drug, the extract was praised for the cure of uterine scirrhus by Stoerk and by Dr. Tunstall for that of chronic inflammation of the womb; but I have extensively given the extract without utility. It would be, however, worth while to again try conium in uterine affections, now that we have been taught its physiological properties by Dr. Harley. He has ascertained that it acts on the corpora striata and the whole of the motor tract, and that as opium tranquillizes the over-excited brain, so does conium soothe and strengthen the unduly excited and exhausted centres of motor activity, not acting as a depressing, but rather as a tonic remedy.

In all cases of irritability of the spinal cord, says Dr. Harley, and especially in cases of undue excitement of the sexual organs, the beneficial action of conium was very marked: "I cannot too strongly insist," he observes, "on one point—viz., that a dose of hemlock which falls far short of producing the peculiar physiological effects of the plant, is of no more use in the treatment of the diseases to which it is adapted than an ordinary dose of quinine

would be in the treatment of ague. Having satisfied myself, by careful observation of the patient, as to the quantity required to produce the earliest indications of hemlock action—viz., slight and transient giddiness with a little weakness of the knees, I prescribe a repetition of this dose every other, or every day, or even twice a day.” It must be well understood that the only reliable preparation of conium is *succus conii* of the British Pharmacopœia, that the initial dose for a woman is two or three drachms, and that when once the physiological effects of the remedy have been obtained, it is not desirable to increase the dose.

CAMPBOR.—Dr. Physick says that “camphor was made for women, with whom it always agrees, while it always disagrees with men.” This is an exaggeration, for I have met with women with whom it has disagreed, and it often agrees with men. Its subtle fumes seem to spread like an aura over the nervous system, stimulating it to increased action, causing the capillaries to eliminate, with the perspiration, whatever oppresses the nerves, whether it be a gaseous or an electroid fluid, with which they are overcharged. The effect of this is a subsidence of pain, an increase of strength, and sometimes a sensation of lightness, the patient feeling as if she could fly. Camphor seems to correct the toxic influence which the reproductive system has on the brain of some women; its anaphrodisiac properties have been often shown in priapism and nymphomania. It seems to abate the sexual sting, by acting on the cerebro-spinal nerves of the external organs of generation, not on the testicle or ovary. On this point the testimony of Raspail, who gave it, as a panacea, in very large doses, is of great value, and he says that habitual large doses did not prevent conception nor induce impotence. It is usually given in small doses, but Dumas, of Montpellier, gave—he does not mention how—one hundred grains in the course of a day. Raspail gave from five to ten grains in a wine-glass of water, with or without a few drops of ether; I order it in this way, or prescribe Sir J. Murray’s fluid camphor. For external application, there is the camphorated oil, made with one drachm of camphor to one ounce of oil; the camphorated ointment, made with two drachms of camphor to one ounce of lard; and the camphorated vinegar, made by dissolving one ounce of camphor in a pint of vinegar, which is useful, when diluted with water, to apply to the head in headaches. A drachm or two of powdered camphor, sprinkled on a linseed-meal poultice,

before its application, will be found useful. If coarsely powdered and folded in cotton wool, it may be worn as a sachet at the pit of the stomach. It may be sprinkled on a belladonna or other plaster, and then applied where judged necessary. After a full injection of tepid water has been returned from the rectum, three or four ounces of camphor-water may be injected twice a day, but it would be better to give four or five grains dissolved in the yolk of an egg, as recommended by Lisfranc. Raspail advised the introduction of camphorated ointment into the vagina, but I have no experience of this remedy. Camphor may be incorporated with violet-powder and freely used to relieve pudendal irritation, and to the cheeks when flushes are dry and annoying.

LUPULIN.—I have long been in the habit of adding six drachms of the tincture of lupulin to a six-ounce mixture; and I am confirmed in my opinion of this drug by what has been lately stated by German and French practitioners, who have found, that when from two to sixteen scruple doses of the yellow lupulin were given, it effectually quelled the erection of chordee. If these results are confirmed, it would certainly show a strong anaphrodisiac action, and justify its use in some diseases of women. On three occasions, at long intervals, a patient has obtained good sleep from taking a drachm of lupulin, made up into pills, in the course of the evening, after ineffectually trying to get sleep from the various preparations of opium and henbane.

BROMIDE OF POTASSIUM.—Since Sir C. Locock made known the value of bromide of potassium for the cure of epilepsy, when it occurs in association with menstruation, that remedy and the bromide of ammonium have been much lauded as sedatives. I can add my testimony to the value of bromide of potassium, when taken in ten-grain doses two or three times a day, in any aromatic infusion; I have seen it give sleep when opium failed. Drs. Garrod and Sieveking admit that it acts as an anaphrodisiac, which explains why Dr. Brown-Séquard found it serviceable in dysmenorrhœa, nymphomania, spermatorrhœa, and incontinence of urine; and Sir C. Locock mentioned to me that he was induced to give this remedy from reading that it had caused impotence in some German students. Similar effects have been ascribed to the use of bromide of ammonium.

IODIDE OF POTASSIUM.—It will be remembered that the protracted use of iodide of potassium has caused atrophy of the mam-

mary glands, and Dr. Alphonse Guérin has lately stated that he has seen impotence caused by the daily exhibition of one to four grains of this remedy, during several months, for the cure of syphilis, sexual power returning on leaving off the iodide. In mentioning this to Mr. Bullock, he gave me to understand that he had long become aware of it in the course of business.

COLD.—Cold is a model sedative, and half what I have said of its therapeutical value, in diseases of women, in the chapter on tonics, at page 54, would be equally well placed here. It is the sedative effect that we wish to obtain when we advise prolonged bathing in cold water, and the prolonged application of ice to cure congestion or neuralgia.

A mode of applying cold was much adopted by the late Dr. Aran, in chronic inflammation of the womb: a large speculum being introduced, he plugged the vagina with coarsely-powdered ice, after which the patient returned to bed, and this was repeated every day or on alternate days. Some of his patients told me that it sometimes increased, for a time, their habitual pelvic pains, but that, in general, it diminished them, at least for a few hours. I can understand the utility of the plan, but I do not think it sufficiently useful to oppose the prejudices which it would encounter. Dr. James Arnott had already suggested the utility of ice in cancer of the womb. It does not cure the complaint, but it often abates the intensity of the pain; I have also sometimes given ease by the application of a bag of ice to the ovarian region, when burning pain was complained of.

MESMERISM.—Without discussing the physiological questions suggested by this word, I will mention that a patient was mesmerized every day for two months, for inflammation of a prolapsed and retroverted womb, without any effect; and I do not believe that mesmerism could have the slightest influence on the local disease. I can quite understand that the prolonged contact and gentle manipulations of one human being may irritate or soothe the nervous system, and even produce sleep in others. When travelling in the East, I have frequently seen slaves gently tickling their masters' feet and legs, who were soothed by the procedure; and nothing quiets down mental excitement in a patient of mine so much as having her arms tickled, for an hour at a time, by her sister or nurse. She remembers, when a little girl, having to do so

for her father; and several of her aunts and uncles are soothed by the same process.

SHOCK.—The occasional disappearance of toothache at the sight of the dentist's knocker is a familiar instance of this. Pain may be cured by acupuncture, platinum needles being introduced so as nearly to graze the bone, and left in a quarter of an hour. For centuries sciatica is said to have been cured, in Corsica, by the cauterization of the helix of the ear; and the late Professor Malgaigne ascertained, for a positive fact, that the application of the white-hot iron to the ear sometimes cured sciatica. This was also an old English remedy for ague. Pain is quelled by the continual pressure of abdominal bandages; by firmly pressing the pelvis with cushions, Boerhaave checked an hysterical attack, and I have seen Récamier suddenly extinguish hysterical convulsions by causing a lady's maid to sit on her mistress's belly. The passing of a sound has cured neuralgia of the neck of the bladder; and, in a case cited by Malgaigne, a woman was suddenly cured of all her sufferings by the application of the intra-uterine stem-pessary, though the deviation still remained the same. Jobert de Lamballe has published several cases of long-continued distressing uterine symptoms, without any apparent structural change, in which a cure was effected by applying the red-hot iron to the neck of the womb.

RANGE OF UTILITY.

The use of sedatives for the cure of the nervous affections, to which women are especially liable, may be referred to several main indications of treatment, which I shall briefly note:

1. Cerebral indications.
2. Ganglionic indications.
3. Ovario-uterine indications.
4. Anaphrodisiac indications.

1. **CEREBRAL INDICATIONS.**—In those distressing conditions of the nervous system, which are included in the term hysteria, I begin by giving three grains of the extract of hyoseyamus, with or without a grain of Dover's powder, and a mixture containing tincture of hyoseyamus with some aromatic tincture or camphor julep. Small doses of morphia, with cherry-laurel water, or with chloric ether, and the spirit of chloroform, of the British Pharmacopœia, are also useful. Musk and analogous substances, castor, ambergris, sumbul, and the preparations of valerian, are beneficial

in a host of those anomalous symptoms of cerebral disturbance which are caused by uterine disorders. In bad hysterical fits, it may become necessary to give two or three grains of acetate of morphia, and to repeat the dose until the remedy begins to tell on the disease. In like manner acetate of morphia must be given, irrespective of dose, to quell intense pain, but before resorting to these very large doses, it would be better to try and give relief by the hypodermic injection of sedatives, as described in the preceding pages. A patient, suffering from internal metritis and neuralgia of the abdominal parietes, took from three to four grains of acetate of morphia every day for many years; it diminished the pain, but induced little sleep. Another took one grain of acetate of morphia and one of opium every four hours, for six weeks, and was thereby quieted, but had very little sleep. I have seen patients driven to the verge of insanity by ovario-uterine excitement; and in proportion as it was assuaged by the systematic exhibition of sedatives, cerebral disturbance abated. Those most benefited by sedatives are the nervous and chlorotic, in whom action is without power—action requiring to be restrained until the system has gathered strength; and, as the tolerance of a remedy is generally in direct proportion to the fact of its being required, the thin, weak, and nervous are more amenable to the action of sedatives, and can be brought to tolerate the largest doses. Those of the plethoric habit bear the solanaceous sedatives better than opium, unless this be given with ipecacuanha and purgatives; and calomel or blue pill should be occasionally combined with the sedatives required by women of a bilious nature. These observations apply to sedatives *internally* exhibited; but, as their poisonous effects are often felt before the local sufferings are appeased, their *external* application is often required for complete relief.

Whenever insanity is caused by ovario-uterine disease, it may be generally cured by the exhibition of sedatives by the rectum. Dr. Ferrus assigned great utility to uterine medications, when insanity has coincided with, or has seemed to be determined by, the suspension of the menstrual flow; and he agrees with Dr. Conolly, that, in such, the prognosis is most favorable. Amongst others much benefited by this mode of treatment, I may mention a patient sent to me by Mr. F. Brown, of Chatham. She was about fifty, at the change of life, lived in complete seclusion, and was a prey to all sorts of strange delusions. As there were leucorrhœa,

frequent uterine pains, and great suffering on digital examination, there was a chance that sedative enemata might afford her relief, so I ordered them, with other measures, and with very favorable results.

In severe headache, megrim, and hemicrania, which so often occur in connection with diseased menstruation and uterine affections, it is good to sponge the head once or twice a day with cold vinegar or Eau de Cologne and water, and, after half-drying the hair, to rub in, for five minutes, sweet-oil, or any pomatum the patient may prefer. Bathing the nape of the neck with very cold water, for several minutes, the application of a lump of ice to the same place, or cold applied by means of the ether spray, sometimes are useful; so are dry cupping-glasses applied to the same spot. If these refrigerant measures do not relieve, hot flannels, sponges, and hot irons to the temporal regions can be tried with due caution. When the symptoms show great excitement, I have the head sponged with water, holding in solution two to four ounces of camphorated spirit of wine to the pint, with the addition of a little Eau de Cologne or lavender-water. Camphorated vinegar and water, or water in which camphor has stood, or the compound camphorated liniment well diluted, are excellent remedies. This last has been sold as "Ward's essence for the headache;" but, a still better preparation is Raspail's sedative lotion, which will be found in the Formulary. This lotion may be used with a small sponge, or a pad of soft linen may be soaked in it, applied to the painful part of the head, and renewed as often as may be required. It reddens the scalp, causes burning sensations, and sometimes cutaneous eruptions; its action can be lessened by diluting it with water, but, in severe cerebral affections, a handkerchief should be tied round the forehead to prevent the liquid running into the eyes, while copious spongings are made to the head of the reclining patient. Tincture of aconite is useful, rubbed into the nape of the neck, or applied by means of lint and oil-silk. Cold cream should afterward be rubbed into the scalp, or cold cream, with one drachm to the ounce, of camphor, and two drops of the essential oil of bitter almonds. In pseudo-narcotism amounting to stupor, I have, in addition to other means, rubbed into the scalp Eau de Cologne with as much camphor as it would dissolve. After rubbing it in for a few minutes the patient has come to herself. In a case in which these attacks of stupor frequently followed the epigastric pain, this

was my only treatment during the attack. On recovering her senses, the patient felt as if her brain were "benumbed," and then succeeded a sensation of internal pricking, like "pins and needles;" when this was complained of, I wrapped the head in flannel, and left the patient to herself. If, instead of being cool and feeling benumbed, the head is hot, painful, and the patient excitable, these stimulant applications are of no use, or do harm. The application of the deuto-sulphide of carbon, and of the tetrachloride of carbon to the head, as recommended at page 76, should not be forgotten.

2. GANGLIONIC INDICATIONS.—There are several conditions depending on the ganglionic nervous system, which can be controlled by the local application of sedatives. When the patients complain of epigastric uneasiness, sinking, and faintness, I ascertain whether these sensations depend upon foul secretions requiring purgatives, and order a sedative mixture before meals, an alkaline after; three grains of blue pill and two of extract of hyoscyamus at night; a mustard or a hot linseed-meal poultice, sprinkled with coarsely-powdered camphor, every night; dry cupping as recommended by Galen, or oil-silk over a cotton-wool poultice, or a camphor-bag, to be worn, during the day, on the pit of the stomach. If the pains continue, I prescribe a pitch, a belladonna, or an opium plaster, made soft, so as to embody from five to ten grains of opium to the square inch, or the ready-made plaster, containing morphia and atropia, noticed in the Formulary. The plaster should be left on; should it fail to relieve, I repeat it every four or five days, or I apply two—one to the pit of the stomach, and the other to the sensitive region of the spinal column; or I order, alternately, an opium or a belladonna plaster, every fourth day. If there be sleeplessness and nervous irritability, I give from five to ten grains of Dover's powder every, or every other night; or the twelfth of a grain of acetate of morphia, every one or two hours, until the induction of drowsiness. If, besides the sensation of prostration, there be downright pain, resisting the local means previously detailed, I have sometimes, with benefit, applied chloroform to the pit of the stomach. These distressing sensations are associated with more or less debility, requiring generous diet and tonics.

3. UTERINE INDICATIONS.—When nervous affections are caused by uterine disorders, sedatives should be administered to the womb and to the lumbar region, which is the genito-spinal centre of reflex

action, for it supplies nerves to the sexual organs and to the bladder. Sedatives may be then exhibited in many ways.

VAGINAL INJECTIONS.—If carefully used, the injection of a drachm of laudanum, or a tablespoonful of tincture of henbane in a pint of water, for five minutes, twice a day, is of real service.

VAGINAL SUPPOSITORIES.—Those made with extracts of opium and of belladonna, although very useful when introduced into the rectum, cause so filthy a vaginal discharge, that patients soon abandon their use. I very much prefer incorporating the salt of morphia and atropia with cacao-butter—a proceeding now sanctioned by the new Pharmacopœia. Half a grain of acetate of morphia, with the sixteenth of a grain of sulphate of atropia, with ten grains of cacao-butter made into the shape of a Minié-ball, is an excellent remedy, and can be introduced by the patient herself when in bed.

I frequently leave a pledget of cotton wool, soaked in laudanum, near the neck of the womb, when the pain is very severe, and I have occasionally applied acetate of morphia by means of the speculum and forceps. It may, however, be applied without using the speculum; the fore-finger of the right hand being introduced into the vagina in the usual way, the left hand can easily glide the forceps, armed with the cotton wool, along this finger, until the neck of the womb be reached. I have sometimes renewed the application every second day, the fluids in the vagina dissolving the acetate of morphia, the solution remaining in contact with the neuralgic womb. The late Dr. Aran, of the Hôpital St. Antoine, extensively followed the same idea; but his plan was to drop one or two drachms of laudanum into the speculum previously introduced, solidifying the fluid in the vicinity of the womb, by a tablespoonful of powdered starch. Dr. Aran repeated the application every second, or every day, without the treatment being followed by symptoms of narcotism. He found it as effectual as myself in cases of uterine or ovarian neuralgia, subsequent to inflammatory affections, or complicating uterine deviations, and in those singular and painful conditions of the womb which occur at the change of life.

About ten years ago, I was asked to see a lady, residing a few miles from town. She was married, about thirty, of diminutive stature, nervous temperament, dark complexion, and reduced to extreme emaciation, having been confined to her bed for several

months, by an excruciating pain in the back, and in the lower part of the abdomen. The pain was constant, but with paroxysms most violent at the menstrual periods. The flow was scanty, and there was a purulent vaginal discharge. She had slept but little for many months, and could scarcely digest any food. The pain in the back was so intense, that the late Mr. Lonsdale had been consulted, and he is said to have called the case one of "hysterical spine." On examination, I found the womb exquisitely sensitive, its neck considerably swollen, and a considerable amount of ulceration round the os uteri. Three leeches were applied to the womb; but the loss of blood they gave rise to, and the increase of pain they determined, prevented my repeating the application. I touched the ulcerated surface, twice with the solid nitrate of silver, and afterward with a strong solution at four days' interval; cooling injections were used; and, in a few weeks, the ulceration had healed, the uterine swelling had diminished, but the habitual pains had but little abated, and rectal injections could not be retained. I therefore placed one grain of acetate of morphia in a little cotton wool, folded it up, tied a piece of twine round it, and carefully applied it close to the neck of the womb, leaving the piece of twine protruding, so that the patient might withdraw the little apparatus at the end of twenty-four hours, during which time no injections were to be made. Three days afterward, I applied two grains of the morphia salt, in the same way; and four days afterward, three grains. The day after this application, there was a sudden abatement of the pains; and so great was the improvement, that the lady, who for months had only been able to crawl down-stairs, to be carried back to her bed, was able to sit upright for several hours, and was not over-fatigued by a two hours' drive. This sudden amendment continued, so that in a few weeks she was able to leave for the sea-side, and she so far regained her health, as to be able to take an active part in the superintendence of a large paper manufactory. I saw nothing of her for six years, when, her general health breaking down, under the influence of overwork and mental distress, the old uterine disease returned, and I again found the application of acetate of morphia to the neck of the womb very serviceable.

When I have had to do with tractable patients, I have seldom found this treatment fail in cases of uterine neuralgia. Once, when it was caused by pregnancy, after trying various means, I resorted

to this; but it brought on an alarming paroxysm of tenesmic pain, which subsided on the removal of the cotton wool. This patient continued to suffer until delivery, and I think pregnancy would not have gone its full time, had I not found in the tincture of Indian hemp an admirable means of mitigating the severity of the pain. In a case of internal metritis, a grain of acetate of morphia, given in this way, turned nausea into vomiting without diminishing the uterine pains. In a similar instance, one grain of acetate of morphia thus applied produced all the symptoms of an overdose of opium; the sickness became worse, the pupils contracted, the mind wandered, and there was great irritation of the skin. Becquerel has had morphia, codeia, atropia, etc., made into sticks, like those of nitrate of silver, with powdered gum and a very small quantity of castor-oil, and introduced them into the neck of the womb.

RECTAL INJECTIONS.—The vagina has much less power of absorption than the mucous lining of the rectum, so the best mode of abating the pain which accompanies uterine inflammation is to give opiates by the rectum; and, in making this statement, I am borne out by Scanzoni, who observes, that even chloroform, when given by the rectum, is useful to quell pain, whereas it is of no avail when administered by the vagina. From twenty to forty drops of Battley's solution may be added to a little milk, and injected, with any appropriate instrument, into the bowels, but I usually combine several sedatives, prescribing Battley's solution one drachm, tincture of hyoscyamus one ounce, spring-water three ounces. Half an ounce of this mixture contains eight minims of Battley's solution and one drachm of tincture of hyoscyamus, and I order this, or double the quantity, to be put into a two-ounce vulcanized india-rubber bottle, filled with warm milk, and injected, as has been previously explained. The soothing nature of the fluid, and its small quantity, allows of its being almost always retained, and this can be repeated two or three times a day. If ineffectual, I add to the four-ounce solution from four to six grains of extract of belladonna, or from ten to twenty minims of tincture of aconite. This last medicine must be carefully given, for a friend of mine nearly killed a patient by ten drops of tincture of aconite exhibited by the rectum. This mode of giving opiates is invaluable, when pain complicates any uterine affection, including cancer and displacements of the womb; and I have shown, in the second

edition of my work "On the Change of Life," that many obscure nervous affections may be thus amended, and often cured, when they depend on the perverted action of the reproductive organs.

RECTAL SUPPOSITORIES.—Suppositories introduced into the rectum suit some patients better than injections, and give less trouble; but what will merely relieve pain when placed in the vagina, may cause symptoms of poisoning if introduced into the rectum. The efficacy of a remedy depends on minute details, and the patient should be made to understand that suppositories must be introduced beyond the anal sphincter, for they sometimes cause great distress, if, instead of being placed in contact with a slightly-sensitive membrane, they are left in the sphincter. Suppositories made of extract of belladonna and of henbane are very valuable remedies, relieving pain without inducing constipation.

In hæmatocele, the external and internal exhibition of opium, until narcotism is produced, not only quells the vomiting and nervous excitement, but also the morbid impulse which impels the blood from the organs of reproduction. Should an ovarian abscess burst in the peritoneum, the consequences must be combated by large doses of opium, as Stokes and Chomel have recommended in intestinal perforations—a plan of treatment which Graves found successful in a case of abscess of the liver, which burst into the peritoneum.

DYSMENORRŒA.—We all agree that dysmenorrhœa may be caused by inflammatory conditions of the ovaries and womb, by fibroids, by uterine malformations, and by stricture of the cervical canal; but it is most erroneous to assert that there can be no dysmenorrhœa when the cervical canal is straight and wide enough to afford free passage to the menstrual blood. When this has been the case, I have often found menstruation to be very painful. In very rare instances, this may be referred to a gouty or to a rheumatic taint of the system, but, in general, constitutional dysmenorrhœa seems to me to depend on invisible tissue-modifications and derangements of the nervous endowment of imperfectly-vitalized sexual organs. This condition may cause neuralgia or spasm.

Many reasons militate in favor of the belief that spasm is a frequent complication of cervical stricture. The belief has, in the first place, a physiological basis, in the fact of circular muscular fibres entering largely into the structure of the cervix; and there is no good reason for denying them the liability to that morbid

contraction which constitutes spasmodic stricture of the œsophagus, of the urethra, and of the rectum. Besides this, the inner portion of the body of the womb is separated from the cervical canal by a muscular ring, which Dr. Henry Bennet has called the *os internum*. It is the contraction of this circular band that closes the cavity of the healthy unimpregnated womb; so that, even when there is no stricture, the sound passes it with difficulty. The closure relaxes for a time to let the menstrual flow pass, and, during the collapse of connection, to facilitate the passage of semen to the internal cavity of the womb; and it may be taken as an established fact that the *os internum* becomes permanently relaxed whenever the body of the womb becomes seriously diseased by one form or another of internal metritis, and by the presence of adventitious growths.

We often bring on spasm of the cervical muscular fibres by introducing the uterine sound; whereas, if previously warmed, it passes without difficulty. We sometimes induce a spasmodic state, if we blunder in our first attempt to pass a wax bougie through a strictured cervix. For spasm of the rectum, it is recommended to leave metallic suppositories in the passage, and I have occasionally found that the presence of a foreign body in the cervical canal, even for a short time, may deaden its sensitiveness. Two patients had suffered severely from obstructive dysmenorrhœa: one for eight, the other for five years. I was only able to leave in the cervix for a few hours, on alternate days, a bit of No. 2 wax bougie—three times in one case, twice in the other—when the treatment was interrupted by the menstrual period, which was, nevertheless, painless.

The evidence of spasm, as a complication of stricture, is shown by the efficacy of antispasmodic treatment. The great utility of opium, henbane, or belladonna, either given internally or as suppositories by the vagina or rectum during the first twenty-four hours of menstruation, has been taught by the great men who preceded us; and by this mode of practice I have repeatedly enabled patients to menstruate with little or no pain, who would otherwise have suffered greatly, because it was difficult to introduce a No. 2 bougie into the cervical canal. Dr. Head has lately stated that he was able to cure the severest cases of dysmenorrhœa, by introducing the vapor of chloroform into the womb; and, by explaining his mode of practice, and substantiating it by cases, he would help

to check the too frequent performance of operations, that we both consider to have been often uncalled for.

In many of these cases of constitutional dysmenorrhœa there is no spasm, and the uterine sound passes freely through a straight canal; still the pain of menstruation is intolerable, but it may often be relieved by large hot linseed-meal poultices, sprinkled with a dessertspoonful of laudanum, being applied to the abdomen every two hours. When pain is habitually severe, one hypodermic injection of a solution of morphia will often be sufficient at each menstrual period. If opiates are to be taken by the mouth, they should be given as soon as possible, for it is much easier to obviate incipient pain than to relieve it afterward. Squire's solution of bimeconate of morphia is a very good preparation, and from five to ten drops may be given every three or four hours, until the abatement of pain. This is only a new application of an old form of the same valuable drug, for Fothergill and Petit Radel long since gave, for painful menstruation, a pill composed of a grain of thebaic extract every hour until the pain abated. From twenty to thirty drops of vinum opii, in three ounces of very thin starch, may also be given as an enema, repeating the remedy, according to the urgency of the case, one, two, or three times a day. Opiates not only calm pain, but, as Dr. Gregory has remarked, often facilitate the menstrual flow, reminding one of the utility of opium in intestinal obstruction, still too frequently treated by drastics.

Suppositories containing morphia and atropia are invaluable in very severe cases, exhibited either by the bowels or the vagina, according as one or the other of these passages will better bear the remedy; and, instead of vaginal suppositories, I sometimes order the chloroform capsules made by Duncan and Flockart. I have already stated that apiole, Indian hemp, and bromide of potassium, may be found useful.

4. ANAPHRODISIAC INDICATION.—With regard to the intensity of the sexual instinct, women may be divided into three classes. Many more than is supposed have little or no sexual feeling; and most of those who have consulted me have thought that this might depend on some physical imperfection, whereas, I have found nothing to explain the fact, though, in a few instances, frigidity seemed explicable by the small size of the clitoris. A second class of women, more numerous than the preceding, but small when compared to the sum total of the female sex, are more or less tyrannized

over by sexual desires, and if they do not marry, and are unrestrained by religion, education, social fetters, and hygiene, give themselves up to the foul habit of masturbation. Women of the first class can no more form an idea of the strength of the sexual impulse in other women, than the blind can form to themselves an idea of colors; and when they judge of each other, as influenced by the presence or absence of sexual impulse, they often judge without the slightest knowledge of each other's motives. The third class comprises the vast majority of women, in whom the sexual appetite is as moderate as all other appetites.

I therefore agree with all that Dr. West has written on the subject, and I repudiate, as utterly untrue, the assumption that masturbation has become general among women; that it should be taken for granted, when the palm is damp or the eye averted; that it should be accepted as the cause of uterine inflammation, amenorrhœa, dysuria, painful defecation, and of all the nervous disorders treated of in this chapter.

CAUSE OF MASTURBATION.—I apply to masturbation the same mode of reasoning as to hysteria, at p. 67. The brain and the mind are chiefly at fault; but prurient desires are awakened by some ovarian aura, conveyed to the brain by the ganglionic nerves. Nothing is generally found amiss in the sexual organs to explain the tendency to masturbation, but sometimes there is evident congestion and irritation of the vulva, or subacute inflammation of the womb and the ovaries, which conditions are sufficient to awaken desires that would otherwise lie dormant. Usually, however, the stimulus is mental, and it is by dwelling on thoughts relating to sexual pleasure that the mind yields to the foul temptation.

SPONTANEOUS ORGASM.—Nothing more forcibly shows the strength of the sexual instinct than what I have called spontaneous orgasm, of which I have met with several marked instances in young widows, suffering from chronic uterine inflammation. They were pure-minded women, not readers of licentious books, and having masturbation in horror, nevertheless they were sometimes awoken from sleep, or from half sleep, by sensations exactly similar to those experienced during connection, this spontaneous orgasm of the reproductive organs being followed by an increase of vulvo-vaginal secretion. Great prostration was often felt the following day, the mind was distressed, and the temper exasperated to the verge of mania. Connection would have cured this distressing

mental state and this sexual orgasm, which has doubtless led other women to self-pollution. Leeches to the vulva gave temporary relief, and opiates were always useful; while injections with borax, acetate of lead, or nitrate of silver, have brought on this orgasm in two patients, who find relief from injections of linseed-tea and laudanum, from suppositories, containing opium, from belladonna, given either by the vagina or by the bowels, and from the inhalation of chloroform, so as to deaden sensibility without causing unconsciousness.

Although refraining from dangerous investigations, I have occasionally felt convinced that a young, virtuous, and unmarried patient was suffering in the same, and, to her, unaccountable way. This mental predisposition will be fostered by luxurious feeding and stimulants, by soft beds, by licentious books, pictures, and conversation; but poor fare, hard beds, little sleep, active duties, and the all-pervading influence of religion, will not prevent nature asserting itself even in the convent-cell, so that the phenomenon of *spontaneous orgasm* has made many a nun consider herself the victim of Satanic influence.

SYMPTOMS AND RESULTS.—Not only has masturbation been represented as much more common among women than it really is, but the evil results of the foul practice have been fearfully exaggerated. I have found it an occasional symptom of chronic uterine inflammation, and, in some very bad cases, the habit was given up when the uterine disease was cured. Amongst the frightful cases of masturbation, that have been recorded by those who wrote during the last century, it is easy to detect the symptoms of organic disease of the womb, which it was not then possible to identify accurately. It is not masturbation that causes epilepsy, idiocy, and insanity; but epileptics, idiots, and the insane, often fall back on foul practices to diversify the monotony of a miserable life. In confirmation of this view, I may mention that, out of fifteen cases of confirmed masturbation, I cannot recollect one instance wherein it coincided with epilepsy, insanity, or the more severe forms of hysteria; and if foul habits caused these diseases in women, how much more frequently would they be observed in men, who are much more given to masturbation than women, and in whom it is evidently a more powerful source of damage! As far as my thirty years' experience goes, it leads me to admit, that habitual masturbation lowers the whole tone of the system, causes

an irritable condition of the temper, the milder manifestations of hysteria, and the gradual and permanent impairment of the mental faculties.

TREATMENT.—Religious training, a solid education, plenty of exercise, occupation, a hard bed, early rising, and the careful management of menstruation, will usually prevent masturbation being discovered by a child, and it is for her friends to see that the practice is not taught her by a bad acquaintance or a servant. If the habit has been acquired, the first thing is to ascertain whether the sexual organs are in a healthy condition, and to cure what may be amiss. A wide-awake friend or nurse should sleep with the patient. exercise should be carried to the verge of fatigue, and the mind should be as much occupied as possible by pleasurable pursuits. There is much more to be done in this way than by medicines, but large doses of camphor, lupulin, and bromide of potassium, have occasionally proved useful. Dr. Ellis, of St. Luke's, depends greatly, for the treatment of masturbation, on the application of ice, for an hour at a time, to the clitoris and the adjacent parts. An occasional flogging might be tried as a deterrent with the young, but besides the debasing effect of corporal punishment, if applied to the seat, it might defeat the intended object. Indeed, it is singular that, in total ignorance of the theory of reflex nervous action, holy people, most anxious to extinguish the lusts of the flesh, should have actually hit upon the plan resorted to by the most depraved of debauchees to awaken the smothered embers of desire. At the Hôpital de l'Ourcine, there is a ward for little children addicted to masturbation, and part of the treatment consists in applying nitrate of silver to the vulva, in order that pain might be found by those in search of pleasure. I have stated that masturbation sometimes coincides with the milder forms of hysteria; they aggravate each other, and have been often cured by marriage.

CLITORIDECTOMY.—This has been always recognized as a justifiable operation when the clitoris, by its unusual size, could scarcely fail to lead to masturbation. It was usual to remove the clitoris with the knife, and the actual cautery was applied to check the flow of blood. I have cited a case, in which this was done without, however, preventing masturbation. Clitoridectomy has been largely proposed as a panacea for almost all the complaints of women, but I know of no facts to warrant the assumption, or to justify the practice; and the operation must still remain one for

the cure of masturbation, and only justifiable in a very limited number of cases. Formerly the operation was never performed except when the clitoris was much enlarged, but the results of late discussions lead me to sanction the removal of the clitoris, even if it be no larger than usual, when masturbation has resisted all other measures, and when it seems to aggravate hysteria or epilepsy. In those frightful cases of insanity, which have been described as furor uterinus and metromania, as the removal of the ovaries is not to be thought of, clitoridectomy may be permitted, but cannot be depended on. The mode of action of this operation is not quite so simple as it would seem to be, for, besides the removal of the chief seat of pleasure, there is the shock of the operation, and the irritation and suppuration of the healing surface during the following month.

CHAPTER V.

ANTIPHLOGISTICS.

HYGIENE having been neglected, or having failed to restore health, and domestic treatment having been found of little avail, then tonics are resorted to. If these cannot impart to the vital force that governs the system sufficient energy to maintain health, then any slight cause of irritation may set up inflammation or some other disease of nutrition, in the weakest tissues or organs.

As in the early part of this century there were pathologists who considered that all diseases were caused by inflammation, so it would be equally erroneous to look on inflammation as a pathological curiosity of extremely rare occurrence. I know that, as in religion and politics, so in medicine, certain words assume a despotic sway, and, for a time, deprive us of reflection, and impel us into untrue practice founded upon one-sided views. I have already commented upon one of those words, Hysteria; Inflammation is another, and under its name numberless errors of diagnosis have been made, and rivers of blood have been uselessly or perniciously shed.

On that account it may seem good to some reactionist pathologists to bow inflammation out of their works; but the phenomena represented by the word are too important, and of too frequent occurrence, to be so easily expelled from the field of practice. Studied by the light of histology, chemistry, and experimental physiology, we shall better understand inflammation; but it will ever be, if not the keystone of pathology, at least a leading pathological condition, ever present to the mind of the judicious practitioner, in relation to the past, the present, or the future of any important case he is called upon to treat. Whether it be treated by frequent bleeding, by large doses of brandy, or by expectation,

inflammation will ever be present to the medical mind as a reality to contend with, or an eventuality to guard against. In treating a case, we instinctively ask ourselves, Is the disease inflammatory; and, if so, is inflammation the sole disease, or only one of its elements? If inflammation, of what kind and type, and at what stage of its progress? This applies to diseases of the womb, and the question of their being inflammatory or nervous is the first to be asked; for, with some exceptions, if not inflammatory, we are to a certain extent reassured respecting their prognosis; and although it be true that acute uterine inflammation of the unimpregnated womb rarely leads to a fatal termination, chronic uterine inflammation is often an ever-lapsing morbid condition, out of which arise diseases of menstruation, diseased and ulcerated mucous membrane, hypertrophy, sterility, and displacement of the womb. It would be singularly incorrect to suppose that most diseases of women originate in inflammation of the neck of the womb, but, besides the fact that many do, it must be borne in mind that the neck of the womb is its most accessible portion, and as the application of remedies to the cervix is often the best way of curing inflammation of the body of the womb and of the ovaries, so the pathological error has doubtless contributed to the patient's recovery.

When, in any portion of the sexual apparatus, I meet with persistent pain, redness, and swelling, I consider that congestion is merging into inflammation, and that the diagnosis is made certain by the supervention of suppuration. With most pathologists, I admit that inflammation depends on the paralysis of the vaso-motor nerves and the enlargement of the blood-vessels of the part affected; and that these conditions lead to defective nutrition, particularly if the blood be deteriorated. It will be for more competent men to decide whether this defective nutrition depends on diminished activity, or on a marked increase in the activity of vital changes, as is maintained by Dr. Beale; I must be content to know that this defective nutrition leads to hyperplastic deposits, as the Germans say; or to ulceration, which I shall have to consider in the chapter relating to caustics.

BLOOD-LETTING.—No science exemplifies better than medicine that waywardness of the human mind which leads it to despise its yesterday's idol, then gather up the broken fragments and set up its regilt statue on a new pedestal as a fit object for adoration.

Thus bleeding has, at one period, been too much extolled as the best remedy for disease, and, at another, abused as the most pernicious of all therapeutical agents; so late as 1840, Sir H. Holland stated that "current opinions and prejudices are wholly on the side of bleeding," and "that a physician needs all his firmness to decline the practice." Mr. Skey seems to think that this is still the case in 1868, whereas even those who, in their dogmatic writings, advocate the utility of bleeding in certain well-chosen cases, conform, in practice, to the general prejudice, and bleed so little that one may, for months, attend the medical practice of a large hospital without seeing a patient bled. Bleeding has gone out of fashion, because the profession, vividly impressed with the recollection of the excesses to which, at different times, it has been carried, has learned to substitute for it calomel and antimony; but, by totally neglecting bleeding in inflammatory affections, calomel, antimony, and other remedies do not exert their influence so speedily as when their exhibition is prefaced by moderate bleeding. Venesection may be considered valuable in active hæmorrhage, operating on hydraulic as well as on chemical principles, for no pathologist denies that, by diminishing the quantity of blood, we slacken the energy with which it flows to some particular organ, and thereby diminish congestion. No pathologist has disproved that the blood is impoverished by bleeding, and the number of its corpuscles diminished. No pathologist has shown that, by thus giving a smaller quantity of impoverished blood to the nutritive processes everywhere progressing, there is not a corresponding diminution of caloric and of vital energy. Because our forefathers bled too much, it is no reason why bleeding should not be sometimes useful, and I find it just as much so now, as thirty years ago, whenever acute inflammation of the womb is more or less complicated by pelvic peritonitis, causing high fever and other symptoms, in women of average strength. What mischief can then be done by taking from the arm from eight to ten ounces of blood? I believe, on the contrary, that this favors the action of other remedies, and shortens the duration of disease without protracting convalescence; so I do not feel disposed to give up a remedy which has stood the test of ages, notwithstanding the manner in which it has been abused. Even those who, like my friend, Dr. Bennett, of Edinburgh, deprecate the practice of large bleedings to cut short disease, admit that moderate bleeding may afford a large amount of

relief by palliating certain symptoms, and it seems to me to border on absurdity to be so much afraid of bleeding women, suffering from acute inflammation, when we know that, for thirty years, they are bled by nature once a month, and that they often recover well from frightfully large losses of blood. In decidedly plethoric patients, bleeding may alleviate severe pelvic pains, and cause the menstrual function to be performed without dysmenorrhœa, and it has been known to rapidly check flooding. The best time for bleeding, in such cases, is during the few days preceding the catamenia. Good results have followed this plan, whether the blood be taken from the arm or the leg. Practitioners of olden time asserted that the effects of bleeding are very different if the blood be drawn from the arm or from the saphena vein; such distinctions are now looked upon as hair-drawn, but it must be remembered that, owing to the discontinuance of bleeding, the medical men of the present day cannot bring the question to the test of experience, and it is better to draw blood from the vena saphena, in cases of suppressed menstruation, during the active periods of women's life, when blood-letting is deemed advisable. Romberg relates a case of suppressed menstruation causing distressing hiccough, which continued unabated, notwithstanding the application of numerous remedies, until three ounces of blood were taken from the leg, when it suddenly ceased. Lisfranc's plan of taking three or four ounces of blood from the arm, before the menstrual periods, in the treatment of chronic disease of the womb, has been altogether abandoned by his countrymen; but I have found it sometimes serviceable in the treatment of chronic uterine and ovarian affections, and Dr. G. Bedford has praised the taking away of two ounces of blood from the arm every fortnight in diseases of menstruation. It will be evident that the removal of these small quantities cannot excite the nervous symptoms determined by large bleedings in women below the average strength.

If a redundancy of blood, of which nature has no means of disposing at the demise of the ovarian function, is an important element of disease at cessation, it follows that bleeding, so often effected by Nature at this period of life, should not be neglected by those who pride themselves on understanding and on imitating her proceedings. Yet only 5 of the 500 patients I questioned on this point had been bled at this epoch, and 10 cupped, while 138 out of the 500 were flooded at the change of life, showing how frequently

Nature adopts this plan. The effects of the bleeding should be aided by a judicious regimen; for, doubtless, the urgency for bleeding, even plethoric women, would be considerably diminished if it were not so difficult to persuade them to break through accustomed habits, and consent, for a time, to diminish the quantity of their food, and refrain from what has been shown to be otherwise prejudicial to them. If the indication to bleed soon recurs, in exceptional cases, it is better to bleed in progressively smaller quantities, and at progressively longer intervals. Tissot mentions a case in which he thought it right to bleed for three years, after which the patient recovered her health. Hufeland used to bleed three times in the first year after cessation, twice in the second year, and once in the third. To a certain extent, I sometimes follow the same plan, which imitates a natural process, for, in 171 women out of 500, the menstrual flow ceased by a gradually smaller amount of discharge, occurring irregularly, every two, three, four, five, or six months. Plethora sometimes exists with apparent weakness, which may be relieved by bleeding. In seeking to determine the utility of this measure, it is well to be guided by the state of the pulse at the temples and at the heart, as well as at the radial artery, bearing in mind that, should there be much emaciation, the temporal and radial arteries would be brought nearer to the surface, and give a first impression of vigor where none exists. One way of testing the force of the system is, after feeling the pulse at the radial artery in the usual way, to feel it again when the hand has been raised above the head. If the pulse is then imperceptible, it is dangerous to bleed, whereas, if the change of posture in the arm makes little difference in the strength of the arterial impulse, the heart may be considered strong enough, and the blood-supply sufficient to admit of bleeding. When chronic uterine disease is only one of the results of a cachectic state, the pulse will be often found ranging habitually from 120 to 160 per minute, but the weakness of the pulse, and the fact of the breathing not being more frequent than usual, sufficiently show that it would be disastrous to bleed in such cases.

At whatever period of life bleeding is resorted to, it must be borne in mind that what Sir Henry Holland has said of diseases of old age is particularly applicable to the treatment of diseases of women: "The nervous and circulating systems, though so closely connected in every function of life, have yet their separate

powers. Even taking the whole of each system, these powers are not always, it would seem, in exact relation to each other; and this is more particularly true where the vascular changes, whether of inflammation or of simple congestion, are limited in extent. One may need, for relief, the change in circulation which bleeding affords, yet may require, at the same time, that support or stimulus to the nervous power which is essential to the equal distribution of the blood, without which disorders of a new kind will supervene."

While the effects of bleeding are admirable in plethoric patients, they would be detrimental in those who are chlorotic and very nervous. If women were formerly too frequently bled, it was because headache, heaviness, drowsiness, and giddiness—a group of symptoms which I have called pseudo-narcotism—frequently occur during the derangements of menstruation, pregnancy, lactation, and the change of life; and as they were considered to indicate a determination of blood to the head, bleeding was resorted to. When I first began the study of medicine, I saw the ill effects of such a plan of treatment at puberty and during pregnancy; and Mauriceau gives an insight into the fearful abuse of bleeding in France about 1700, when he mentions that two women were confined, at the full time, of well-developed children, although one had been bled 48, and the other 90 times, during the nine months of pregnancy, for what he calls "*oppression de poitrine*," or the nervous sensations of suffocation at the pit of the stomach, which can be removed by sedatives and antispasmodics. The same symptoms, with headache and giddiness, were, in our own time, considered as indications for bleeding by Columbat and Auber; and though, in England, similar mistakes do not occur, because nobody bleeds, yet the fashion will change again ere long, and then will recur the danger of mistaking nervous disturbance for plethora; indeed, the signs of change are already visible, the medical journals more frequently give cases cured by bleeding: Dr. Handfield Jones bled with advantage an old epileptic patient; Dr. George Johnson recommends bleeding in sun-stroke; and Dr. Swayne, of Clifton, has just praised its heroic efficacy in puerperal convulsions. The utility of bleeding will approve itself more fully to the medical mind, if, as Dr. Mayer, of Heilbronn, maintained in 1845, the blood itself is the seat of all the chemical changes that develop force in the body. This view has been recently developed, with great abil-

ity, by Mr. Heaton, in the *Philosophical Magazine* for May, 1867. It is assented to by Prof. Haughton, of Dublin, and by many physiological chemists and clinical observers.

LOCAL BLOOD-LETTING.—This may be done by leeches and by scarificators of various kinds.

LEECHES.—Contemporary skepticism has not yet sought to shake our faith in the value of local blood-letting by leeches, and no therapeutical injunction is supported by a similar amount of concurrent approval. While objecting to bleeding, as only indirectly useful in inflammatory affections, Dr. Markham observes that “there is a marked distinction to be drawn between the effects of bleeding in inflammation and the local abstraction of blood from the inflamed part. Local abstraction of blood materially influences the inflammation, reducing the most characteristic of its phenomena. But local abstraction can only modify, in this way, the inflammation of internal parts, when there is a direct vascular connection between the part inflamed and the part from which the blood is taken.” The irritation of the leech-bites may partly account for the benefit of their application, but I have been sometimes at a loss to explain to myself the sudden and marked improvement that has followed the application of leeches to the seat of pain in cases of headache, or severe neuralgia in some other part of the body; cases in which there was no inflammation or congestion to call for their application; cases in which the patient’s debility was such as to forbid loss of blood, which could only have been permitted by the remembrance of the speedy relief that had always followed the application of leeches under similar circumstances, when all other remedies had failed. I note the fact without presuming to explain it.

Until the comparatively recent spread of a more enlightened uterine pathology, the various inflammatory affections of the womb and of its adjacent organs were all lumped under what was called *inflammation of the bowels*, and leeches in large numbers were generally applied to the abdominal walls, or to the inner part of the thighs. This may still be done, with advantage, when the peritoneum is inflamed, and when it is desirable not to apply leeches to the womb on account of the irritable condition of the vagina or its virgin state. Both on account of the loss of blood, and as a result of reflex action conveyed from the skin to the inflamed part by the vaso-motor nerves, leeches thus applied are certainly very

serviceable; but the insular position of the womb renders it less liable to be thus influenced than by leeches applied to the inflamed organ itself. Unanimity is out of the question in medicine, but the greatest amount of testimony favors the value of leeches in inflammatory affections of the womb, notwithstanding Lisfranc's doubts whether fifteen or twenty applied to the womb did not rather increase than diminish its congestion, and Becquerel's preference to venesection, or to the application of leeches to the thighs. The experience of the many talented observers of France, Germany, America, and the British empire, favors their application. Dr. Bennet considers them useful as a means of diminishing the pains of uterine disease, although on comparing the results of his practice amongst the rich, to whom he applied leeches, and the poor, to whom he did not, he came to the conclusion that they have very little effect on the duration of the uterine affection. Ferguson's glass speculum is the best for the application of leeches. After introducing it and wiping away the uterine mucus, the leeches should be taken up all together, quickly placed in the tube, and gently pushed down with the finger, until they are felt to be in contact with the neck of the womb, when a ball of cotton wool should be rather firmly placed and held over them. It would be a tedious and useless complication of the operation to use the glass leech-tube, as well as the speculum, as is sometimes recommended. The application of leeches is a tedious operation, and it may be safely trusted to a well-schooled nurse, when the os uteri can be easily embraced by a full-sized speculum; but, when the vagina is undilated, and when it is difficult to bring the os uteri within the field of the speculum, the practitioner ought to apply the leeches himself, for I have repeatedly found, that those which I had ordered to be applied to the womb, had been placed in the posterior cul-de-sac of the vagina, where the protuberant leech-bites could be felt. By applying leeches to the womb, if the object be to diminish inflammation and congestion, they must be used in sufficient number to relieve, and not to congest the womb, and, therefore, I do not apply one leech at a time, as is sometimes done. The number of leeches should be governed, not only by the requirements of the case, but by the size of the speculum to be used; it is useless to apply a large number of leeches through a small speculum, for when they have not sufficient room they refuse to bite, or those that have not taken, interfere with those that have. Indeed, I

cannot understand those writers who say that they apply ten or twelve leeches to the neck of the womb, unless the leeches be very small and the speculum very large, for I have often found the inutility of trying to apply more than four large ones, with a moderate-sized speculum, more than six with a large speculum, and more than three with a small one. When a small speculum is used, it is better to have small leeches, as the loss of blood seems to depend, not only on the size of the leeches, but on the number of leech-bites. In estimating the quantity of blood which will be withdrawn, it must be borne in mind, that if large leeches draw about half an ounce of blood, small ones will not draw half that quantity; so the surgeon should state in his prescription whether he wants large or small leeches to be applied. Less blood is also to be expected from a cervix which is hard and pale, than from one which is red and soft, in which case I have sometimes seen the speculum filled with blood as if a vein had been opened; and doubtless a leech may accidentally fix on a distended vein or a small artery, and thus cause a large loss of fluid, even from a small and hardened cervix; just as I have seen a jet of blood spout out from the bite of a leech, applied with others to an inflamed adenoid breast. Sometimes leeches remain on a long time, fill well, and very little blood afterward comes away from the bites; at others, the leeches soon fall off without filling, and a large quantity of blood subsequently oozes from the leech-bites. In women of full habit, deficiently menstruated, the application of leeches may set up such a determination of blood, that the patients will feel it rushing suddenly to the womb; the loss may amount to a flooding, and last for a few hours. Should the blood be in a healthy condition, the large clots that may be passed have occasionally awakened the suspicion of a miscarriage, so it is advisable to warn the patient of what may occur. Even when the bleeding is not considerable, a large clot is frequently passed, soon after the leeches have fallen off, and blood will sometimes continue oozing out for the two or three following days, so that the patient may lose by each leech-bite from two to three ounces of blood. If it be advisable to promote the bleeding, injections of warm water should be used, which will disturb the blood-clots obstructing the leech-bites. Injections of a cold solution of alum, one or two drachms to the ounce, will often stop the bleeding when it is too abundant; and, when it is urgent to shorten the procedure, a large number of

leeches may be applied, and the bleeding stopped, when required, by the application of powdered alum to the leech-bites. Sometimes the leeches are not willing to bite, because opiate or astringent injections have been used previously to their application; the vaginal secretions should, therefore, be first removed by plain water. If the leeches are inanimate, it is useless attempting to make them bite; if they keep showing their heads between the speculum and the cotton wool with which it is plugged, it is often possible to make them take by pressing them down to the neck of the womb. Some do not bite because they remain inactive between the vagina and the speculum, or because they find other leeches covering all available space, but are willing enough to do so where they find room.

When all have fallen off except one, a little salt may be applied, and, if the remaining leech is not visible, it is well, gradually, to soak up the blood with cotton wool, and withdraw the speculum very gradually, which may bring the leech into view, and detach it from the vagina on which it may have taken. If the missing leech does not come away with, or immediately after, the withdrawal of the speculum, the finger should withdraw it, and if the finger cannot find it after careful search, it has probably entered the cervical canal. I think with Aran, that Dr. Bennet has exaggerated the ill effects of leeches taking on the inside of the uterine lips, for I have known this occurrence to be unattended by pain; though I quite agree with Dr. Bennet, that it is advisable to plug the os uteri with cotton wool to prevent this occurrence. Having applied six leeches to the neck of the womb of a young married woman, who had not borne children, and who was suffering from chronic uterine inflammation, five fell off, the sixth was not to be found; after waiting a long time I left the patient, who had an hysterical fit, and passed the leech, enormously distended with blood. This accident has not been observed by Drs. Bernutz and Goupil, but they state that it has been met with by Devarge, Besnier, and Siredey. The leech is sure to find its way out, and the injection of a solution of common salt would kill it and bring it away from the vagina. The friends should be apprised of the probability of the application being attended by severe pain, until the expulsion of the leech, but it would be most injudicious to tell the patient any thing about it, as the idea of such an occurrence would be sufficient to send many women into hysterics. I have

known three leeches cause atrocious pain, although they were placed on the outside of the cervix, just as I have witnessed a great increase of uterine and vesical pain and disturbance in a patient who had three leeches merely applied to the upper part of both thighs. In a long-standing case of chronic uterine inflammation, ovaritis, and pelvic peritonitis, I have occasionally applied leeches to the womb; sometimes they cause so much vaginal tenesmus that it required an effort to prevent the speculum being expelled; sometimes intense uterine pain sets in before the leeches dropped off, lasted for about twenty-four hours, and only subsided gradually on passing from the womb a considerable quantity of serous burning discharge, which scalded the vagina, labia, and the adjacent skin. Twice, in one month, Hervey de Chegoin saw leeches, applied to the neck of the womb, cause severe pain and syncope. So unusual an occurrence made him ask whether leeches are venomous at certain seasons of the year; whereas he only met with two nervous subjects about the same time. Leeches to the neck of the womb produce nettle-rash in some women, but this soon disappears. The nature of the blood that comes away gives us some information; thus, if very dark, it implies its long-continued stagnation in the congested womb, while florid blood shows the womb to be in a healthy state, and poor, watery blood points to a cachectic state of nutrition.

Struck by an accidental coincidence, Scanzoni speaks in exaggerated terms of the dangers of the application of leeches to the vagina. Within the last two years I have frequently applied them, with the best results, as I have stated in the third edition of my work "On Uterine and Ovarian Inflammation." When the object is to relieve congestion of the pelvic organs, it is immaterial whether the leeches be applied to the vagina or to the womb itself, and when the womb and vagina are very sensitive, it will give the patient much less pain to introduce the speculum two, instead of four or five inches. When the cervix is hard, it may yield very little blood to the leeches, whereas they may draw a fair amount from the vagina. Again, in complicated cases, where ovaritis and internal metritis are associated with an inflamed over-sensitive cervix, I have occasionally seen three or four leeches cause flooding to an alarming extent, and such severe pain that I could not repeat the application; though, by applying them to the vagina, I have been able to cure the disease, without detriment to the constitution.

When the object is to diminish the congestion of the pelvic vessels, and the use of the speculum is painful, I prefer the old plan, of applying the leeches to the cutaneous surfaces of the labia. In the case of a lady, suffering from acute metritis and ovaritis, causing severe headache, sexual excitement, mental exasperation, and absence of the menstrual flow, I have several times applied six leeches to the vulva, notwithstanding the extreme debility of the patient. They bleed moderately, and the result is magical; the pelvic pains diminish, so do those of the head, and the mind and temper become calm; the leeches sometimes give excruciating pain until they fall off, but I think that this pain may help to produce the sudden abatement of the distressing head-symptoms. Leeches should not be applied to the mucous surface of the labia, for fear of inflaming the lymphatics.

FREQUENCY OF APPLICATION.—I have met with many cases in which the patients had been leeches by a nurse, every fortnight, for one or two years, by the advice of highly-esteemed authorities, but without their supervision. Although this plan of treatment is still followed by men of high standing, I do not know of one more disastrous, and it is obviously wrong to order strong measures without watching their action. If the patients are young and delicate, the too frequent application of leeches will increase debility and nervous excitement, and may develop the seeds of phthisis, or of any latent constitutional disease. If strong, the frequent application of leeches makes the womb a permanent centre of morbid attraction for the blood, and actually fosters the condition that it was intended to remove.

RANGE OF UTILITY.—In those inflammatory affections of the neck of the womb constituted by uterine catarrh, with or without ulceration, or with a moderate amount of it, I do not apply leeches, and deprecate Scanzoni's plan, of applying five or six leeches, every six or eight days, in most cases of ulceration. In a deep-seated ulceration on a hard or a soft hypertrophic basis, five or six leeches applied several times, before or after menstruation, whichever I find, on trial, to suit the best, is the plan I adopt. In internal metritis, which is a much more frequent disease than is supposed, and forms the sole or principal pathological condition in many cases of dysmenorrhœa, where, without being very painful, the menstrual flow is very scanty, very profuse, or both alternately, it is well to leech the womb just before the menstrual flow, or after-

ward, if a scanty menstrual flow has left the womb congested. The practitioner can alone determine the number of leeches to be applied in each particular case. It has been lately observed, that very copious bleeding, from leeches being applied to the womb, was the way to cure internal metritis; but I cannot trace the recovery of any of my patients to this mode of treatment, and I think the practice dangerous. When it is a question of once applying four or five leeches to the womb, we should be more guided by the circumstances of the complaint than by the state of the patient's strength, for, much as I deprecate the application of leeches every fortnight, and still more the sending of a patient into the country with this routine prescription, I sometimes apply a few leeches, when the patient is so weak and anæmic as not to have a drop of blood to spare, and with good results. I did so lately to a lady, who had been confined to her bed for more than two years, by ulceration of the cæcum, pelvi-peritonitis, and uterine inflammation. Four leeches applied to the vagina, by diminishing pelvic congestion, relieved headache and mental depression, promoted sleep, removed sickness, and improved the appetite for several weeks, so that she was soon able to repair the loss of blood with interest. For acute ovaritis and pelvi-peritonitis, I deem it better to apply the leeches to the abdominal walls than to the womb, as advised by Aran and Bernutz; for I have more than once seen their application to the womb convert chronic peritonitis into acute, and Aran has seen scarification of the womb have the same result. Under similar circumstances, the leeches might be applied to the vulva, to the inner part of the thighs, or to the perineum. Scanzoni speaks very favorably of the application of three or four leeches every eight or fifteen days, when menorrhagia coincides with flexion of the womb. He thinks it corrects the stagnation of venous blood in the veins, and the friability of the uterine tissues thus produced, and that it diminishes the serous infiltration of the tissues which then resume their tonicity. The same author states that metrorrhagia, which resisted the usual treatment, suddenly ceased on the application of a few leeches to the womb. I think the plan deserving a trial, as the quantity of blood taken away by the leeches is insignificant when compared to what is being lost. When fibrous tumors cause menorrhagia, it is likewise worth while trying the effects of an application of leeches to the womb before the menstrual periods. When leeches are applied to relieve con-

gestion, caused by a fibrous tumor being jammed into the pelvis, a smaller number is required, for I have found three leeches bleed very profusely when applied to the thighs under these circumstances.

The vascular system of the ovario-uterine organs is often permanently and actively congested, either from the menstrual mola-men having been unsatisfied by its accustomed secretion, or by the retention of the secreted menstrual flow. In such cases, a few leeches, before the menstrual period, will often set things right. In some instances, amenorrhœa or metrorrhagia depends on congestion of the pelvic vessels; this may be inferred from the varicose condition of the veins of the vagina and labia—and then leeching the vagina is of great service. Dr. Kennedy mentions, as a cure for the fortnightly menstruation, to forestall its appearance by the application of leeches a day or two before its occurrence; but I prefer giving sulphate of quinia. Leeching the womb may be useful in uterine neuralgia, as in the following case: A thin, sallow-looking lady, the wife of a consulting surgeon, suffered from choking, epigastric pains, brow-ague, and uterine neuralgia, which began at the middle of the intermenstrual period, and lasted until the flow appeared, with great pain, and rendered her unable to do any thing. The womb seemed perfectly healthy, but, though married several years, she had never been pregnant. She had taken Turkish baths without effect; opiates, advised to be locally applied, were not well carried out; but the application of six leeches to the neck of the womb very much diminished the distressing symptoms, which were intimately related to menstruation; for, when that ceased, during a three months' residence in Germany, there was no uterine neuralgia. I have seen the vomiting attendant on uterine disease to be very much abated by leeches applied to the womb; this has been likewise observed by Dr. Smith, of Weymouth.

In hæmatocele or hæmatic collections of blood in the pelvis, the reabsorption of the effused blood is greatly promoted by two or three applications of leeches, at three or four days' interval, and by another application at the first sign of the ensuing menstrual period. In such cases, it is better to apply the leeches to any easily attainable and bulging portion of the vagina. When there are signs of congestion of the portal vessels at the change of life, I have lately done good by ordering six or eight leeches to the perineum, and I was surprised to find, that Ashwell advocated bleed-

ing the womb by leeches, as the best mode of depletion at this period; for, to apply them then, except in cases of uterine inflammation, is to seek to prolong what Nature wants to curtail. An exceptional case will be found in the second edition of my work, "On the Change of Life," in which I have shown that leeches, applied to the womb, restored the movement of limbs which had been paraplegic for several months at the period of cessation. To check the determination of blood to the womb is a culminating indication of treatment at the change of life; and, except in cases of uterine inflammation, I seldom apply leeches, and then rather to the perineum than to the womb, for I find that small general bleedings are more effectual in checking the monthly turgescence of the womb, which, in rare cases, may be very troublesome for many years after the cessation of menstruation.

LEECHES IN PREGNANCY.—Formerly bleeding was resorted to in order to remove the ordinary inconveniences of pregnancy, and has been recently recommended by Dr. F. Ramsbotham, to prevent abortion in plethoric women. In like manner, leeches may be useful in preventing abortion, when it has been repeatedly caused by a severe inflammatory condition of the neck of the womb, with distended varicose veins; indeed, Nature occasionally shows the utility of the practice, by the rupture of a distended uterine vein, leading to the occurrence of a red discharge. Under such circumstances it is well to apply four or six leeches to the womb, at two or three successive menstrual periods; and, by so doing, I have repeatedly conducted pregnancy to its full time, in women who had previously always miscarried; but if there be a moderate amount of uterine inflammation, it is better to keep it in check by injections, and to reserve all active treatment until after confinement. My friend, Mr. Whitehead, has abundantly illustrated the utility of leeching the womb in his work on "Abortion and Sterility."

No one has so strongly advocated this mode of practice as Dr. Bennet, who remarks in his fourth edition: "I have repeatedly applied leeches to patients who were one or two months pregnant without being aware of the fact, and that, not only without any bad result, but with actual benefit. This has emboldened me to apply them in the early stage of pregnancy to those in whom repeated abortions had occurred, with a view to diminish congestion and to carry on gestation. I have done this repeatedly with de-

cided success. Generally speaking, when a female, who has repeatedly aborted, is found to be suffering from inflammatory disease of the neck of the uterus, the removal of the uterine malady is all that is required to modify the tendency. In the majority of such cases the subsequent pregnancies are carried to the full term, but it is not always so: the patient may continue to become pregnant and to abort, either at the same period of the pregnancy, or at irregular periods, notwithstanding the cure of all disease. In these cases I have found the application of a few leeches to the cervix, for one, two, or three successive months, singularly successful in preventing the abortion. I usually choose the time that menstruation would be due, were the female not pregnant. I would remark that the application of leeches to the cervix, under such circumstances, is merely carrying out in a more rational and efficient manner, the practice of the older accoucheurs, who recommend, in these cases, the monthly abstraction of a small quantity of blood, by the application of leeches externally to the ovarian regions. If this plan of treatment prove successful, it is probably because it removes morbid uterine congestion, exaggerated monthly by an irregular menstrual molimen." I may here mention a case of obstinate vomiting at the fourth month of pregnancy, which, resisting every remedy, was suddenly cured by ten leeches applied to the cervix, which was of a deep-red color, and very hard; Negrier also recommends this plan.

It would, of course, be illogical to attribute to the leeches a miscarriage that might follow their application when abortion has become habitual, and I have known them to be followed by miscarriage in a patient, in whom I overlooked pregnancy, on account of the absence of its usual signs and symptoms, and from the fact of the tumor being clearly limited to the left pelvic region. Even in this case, it is probable that the miscarriage was caused by the patient having danced a great deal on the previous evening, although she had been told to keep quiet. Leeches should not be applied to the pregnant womb, without its being plugged with cotton wool, for their taking inside the cervix would most likely bring on abortion. A friend of mine applied six leeches to a patient who was suffering severely from extensive inflammation in the fourth month of her pregnancy. Only four of the six leeches were accounted for, and as the other two could not be recovered by the finger or by injections, it is almost certain that they bit in-

side the cervix; for the pain of their application did not subside until abortion had taken place on the following day.

COUNTER-INDICATIONS.—The application of leeches to the womb is counter-indicated by very acute inflammation, and when the vagina is much inflamed. Whenever a digital examination is very painful, the pain and fatigue of the operation will generally detract from the advantages to be otherwise expected from the application of leeches. By applying leeches to the inner part of the thighs, and the assiduous use of emollient injections to the vagina, inflammation will soon be sufficiently reduced to permit the application of leeches to the womb or vagina. I have seen chronic peritonitis become acute in consequence of leeches being applied to the cervix. Leeches should not be applied in cancerous or syphilitic affections of the womb, for fear each leech-bite should become an ulcer. For a similar reason they should not be applied to the womb when its inflammation is characterized by the production of pseudo-membranes. A patient who had previously consulted a practitioner unacquainted with this uncommon variety of disease, applied leeches to the womb. Each leech-bite became an ulcer, covered with a false membrane, and the complaint was thus greatly increased by the injudicious application of a good remedy.

SCARIFICATION.—All that has been said of leeches, applies, in a limited measure, to scarifications, by which Nature is imitated, in so far as blood flows from the vessels of the neck of the womb. By the bistoury or the scarificator usually sold, we cannot imitate the suction of blood by the leeches, but this has been attempted by Mr. Mayer, in his "*Scarificateur à Syphon*." I prefer leeches, and seldom have recourse to scarification, and I warn the profession against too frequently taking away even a small wineglassful of blood. I have traced the extreme debility and emaciation of several patients sent to me from the country, to their having had the womb scarified two or three times a week, for six weeks or two months. This plan may satisfy the patient, by the immediate relief it sometimes affords to the symptoms of uterine disease, but it only mitigates the local symptoms, at the expense of the constitution.

PURGATIVES.—It will be obvious that, in chronic uterine disease, enemata or the gentlest purgatives should be given, if there be any complicating irritation of the colon and rectum. One or two tablespoonfuls of salad-oil will often be sufficient to move the bowels,

or a smaller quantity of castor-oil, when it can be taken. I think highly of sulphur, which is considered a solvent and liquefacient by Pereira, Dr. Headland, and others. I often give the flowers of sulphur, either alone, or, to each ounce of it, adding a drachm of sesquicarbonate or biborate of soda, and sometimes from twenty to forty grains of ipecacuanha. One or two scruples of this powder taken at night in a little milk, is generally sufficient to act mildly on the bowels, and such combinations are very valuable when a continued action is required. Notwithstanding the contrary prejudice, I have seldom found sulphur give any unpleasant smell to the skin. It is generally classed among purgative remedies, because such is its visible effect, but it owes its chief value to an action which has long rendered it valuable, both in hæmorrhoidal affections, where there is an undue activity of the intestinal capillaries, and in skin diseases, marked by a morbid activity of the cutaneous capillaries. Whether sulphur cures by acting on the nerves or on the blood-vessels, or by modifying the composition of the blood itself, is difficult to tell. Kemp and Hufeland recommend the following powder to be given to those who are advanced in years, and who complain of a tendency to vertigo: guaiacum resin, cream of tartar, of each half a drachm, to be taken at night. This will be found a useful laxative; so will the popular remedy called the Chelsea pensioner, of which Dr. Paris has given the following formula: guaiacum resin, one drachm; powdered rhubarb, two drachms; cream of tartar and flowers of sulphur, an ounce each; one nutmeg finely powdered; the whole to be made into an electuary with one pound clarified honey; a large spoonful to be taken at night. The compound rhubarb pill suits many; the compound extract of colocynth agrees better with others, and the sulphate of soda and magnesia, by diminishing the amount of fibrin in the blood, is a real antiphlogistic.

ANTIMONY.—In our anxiety to discover new remedies, we should not forget to use those sanctioned by long experience, and there is not a more powerful antiphlogistic than tartar emetic: one-sixteenth of a grain, or fifteen drops of antimonial wine, every hour, or every second or third hour, in an effervescent draught, is an invaluable remedy for the acute stages of ovaritis, metritis, and vaginitis. Dr. Beattie's trustworthy experience is in favor of the value of this medication, to check and cure inflammation of the breasts.

MERCURY.—Having *seen* the effusions of iritis, inflammatory as well as syphilitic, melt under the influence of mercury, I still admit that the same agent can remove the inflammatory effusions of other organs, but, while believing in the utility of mercury as an antiphlogistic and as a means of acting on the liver, I have always protested against its blind use, as still adopted by many in this country; I mean the plan of giving a *mild* course of *mercury* whenever a case is obscure and protracted. Some of my patients will never recover from “the mild course of mercury” to which they were subjected twenty years ago; and Dr. Wright’s analysis has proved how greatly the constituents of the blood can be injured by mercury. With regard to inflammatory affections of the womb, I have no doubt that the use of the bichloride of mercury is perfectly safe in Dr. Oldham’s experienced hands, but I should be sorry to see the plan popularized, because a cure may often be effected by less dangerous means, and, as a rule, I restrict the exhibition of mercury to the syphilitic affections of the womb. In cases of chronic inflammation of the body of the womb, I give it with little hope of success, having tried other antiphlogistic remedies. Those who praise this remedy give it, in all cases of uterine inflammation, in conjunction with vaginal injections and other judicious measures; and, as many of the patients soon recover, the credit of the cure is given to the small doses of bichloride of mercury, whereas the patients would have recovered just as soon without that remedy, provided the rest of the treatment had been followed out. Whenever I have tried the plan in well-chosen cases, without advising any other measures, I have found it useless, and my experience tallies with that of Dr. Bennet. Perhaps the internal use of the bromide and the bibromide of mercury now recommended by Dr. Protheroe Smith, may be more effectual. As regards the utility of applying mercury to the neck of the womb, those who try the remedy should use it enclosed in capsules, as sold by Mr. Twinberrow. I am aware that some practitioners assert that mercury, pushed to salivation, will dispel hard hypertrophy of the neck of the womb, but I have not been more fortunate than Scanzoni in obtaining this result. In such cases I rather depend upon preparations of iodine given internally, such as iodide of potassium, or the syrup of iodide of potassium and iron, and on the saturation of the neck of the womb with tincture of iodine, on al-

ternate days, during the healing of an issue, made at the neck of the womb, with potassa fusa.

When, however, all remedies have been exhausted, and the patients still continue to suffer from internal metritis, with chronic inflammation of the body of the womb, I think it allowable to try the effects of mercury pushed to salivation. I have once seen it effect a cure, so has Dr. Gunning Bedford; and Dr. Lever thought well of the plan. I have strongly advocated the use of mercury applied externally in all inflammatory affections of the womb, ovaries, and peritoneum, and have given benefit from mercurial frictions, mixing the sulphates of atropia and of morphia with mercurial ointment, in the proportion of three grains of the former and six of the latter to an ounce of the ointment. This is the most effectual mode of allaying the pain, which is in itself a perpetual cause of irritation; and, as camphor is acknowledged to have a cooling effect on the system, I combine it with the mercurial ointment, both on that account and for its anaphrodisiac properties. My own experience is fully confirmed by that of numerous authorities; thus Mdme. Boivin says that, in several cases of inflammatory adhesions of the broad ligaments, accompanied by dysmenorrhœa, pains, constipation, and tendency to abortion, she gave relief by persisting in mercurial frictions over the ovarian regions; and this treatment not only stopped the pains, but re-established the proper catamenial discharge, cured the ovarian irritation, and imparted to the uterus the power of retaining its fruit, until it was in a condition to be brought forth alive. Dr. Granville and Pistocchi have also cured the tendency to that species of miscarriage produced by ovarian irritation, by combining the internal use of castor-oil with mercurial frictions. Jahn employed an ointment composed of two ounces of mercurial ointment with three drachms of iodide of potassium, in a case which had lasted seven years, and was accompanied by amenorrhœa; of two ovarian swellings, one disappeared, the other was much reduced. In the public institutions with which I have been connected, I prescribed one of these compound mercurial ointments whenever a patient complained of deep-seated pains in the ovarian or pelvic region, extending to the loins and thighs—depending on deranged menstruation or previous severe labors. In the milder cases, the pains subsided after the ointment had been used for a few days; and, in many others, when they had followed severe labor, had

been considerable, and had lasted for two or three years, I have seen them disappear, after using the ointment for two or three months. In some cases the use of the ointment was followed by the cure of the vaginal discharge, from which the patient had been also an habitual sufferer. When mercurial ointments are prescribed, the patient should be warned to take off her rings before rubbing it in, or they will require sending to the jeweller.

IODINE.—When the case is one of long duration, relapsing at menstrual periods, and particularly if it be possible to detect uterine or ovarian enlargement, I have faith in iodine preparations, one to ten grains of the iodide of potassium being given, twice a day, in whatever bitter infusion agrees best with the patient, and three or four drachms of the iodide of lead or potassium ointment, to be rubbed in or smeared over the painful part of the abdomen: over this, a large piece of oil-silk should be spread, then the wadding poultice, or the fluffy side of a piece of wadding, sufficiently large to cover the whole abdomen—all this being kept in place by a thin but well-contrived abdominal bandage. Perhaps the biniodide of mercury, which, in India, has been found so useful to dispel goitre, or to reduce enlarged spleen, by Professor Maclean, at Netley Hospital, might be of use in suppositories for hypertrophy of the womb. At all events, experiments should be made with this preparation, as well as with the bromides of mercury.

ALKALIES.—M. Mialhe has proved that alkalies possess the property of liquefying the serum of the blood, and this explains why bicarbonate of soda has been given to diminish the tendency to plethora. Dr. Parkes has shown that the action of liquor potassæ on healthy subjects varies according to whether it be taken before or after meals. If taken after meals, it acts as an antacid; it combines with the hydrochloric or lactic acid, and passes into the circulation without increasing the water, the solids, or the sulphuric acid of the urine. If liquor potassæ and other alkaline preparations, when given soon after meals, do not appear in the urine, we may conclude that they improve digestion and the crasis of the blood. Dr. Parkes and Dr. K. Chambers have shown that, when liquor potassæ is taken before meals, it has the power of reducing obesity. From thirty to ninety minutes after the liquor potassæ has entered the circulation, there is an increased flow of slightly-acid urine, which contains the whole of the potash and organic matter, and a relatively large proportion of sulphuric

acid. In other words, an albuminous compound, either in the blood itself or in the textures, becomes oxidized; its sulphur, under the form of sulphuric acid, unites with the potash, and possibly with the changed protein compound, and is eliminated by the kidneys. The amount of albumen or fibrin thus destroyed, by a few doses of liquor potassæ, is doubtless small; but, as the remedy can be taken for a considerable time, and its oxidizing effects can be assisted by exercise and by copious draughts of water, there is a possibility of removing superfluous matter from a patient without risk. I sometimes order a tablespoonful of a six-ounce mixture, containing, among other ingredients, two drachms of liquor potassæ, to be taken half an hour before meals, and a scruple of bicarbonate of soda, in a mouthful of water, immediately after meals. This plan has been continued for weeks and months, with occasional intermissions, the patients frequently returning to it of their own accord, because they find they cannot get on comfortably without it. The cooling effects of saline diuretics, like the acetate and the nitrate of potash, are often useful.

COUNTER-IRRITANTS.—The household remedies of this kind have been mentioned. Mustard poultices and turpentine epithems, when applied to the seat of reflex pain which accompanies the acute stages of uterine inflammation, often give relief; and these remedies may be again tried in the second stage of acute inflammatory affection of the womb, particularly when the peritoneum is implicated; but blisters are more useful, and, in chronic affections of the body of the womb and its neck, I prefer painting the abdomen with caustic tincture of iodine, every week or more frequently, or causing the pustulation of the skin by croton-oil or tartar emetic, or its superficial cauterization by the *Marteau de Mayor*, or by an ordinary silver tablespoon, held in boiling water for two or three minutes, and applied to that part of the skin which covers the seat of pain for from five to ten seconds. The action of the heated metal should be timed, watch in hand; for it can be made to act as a blister or as an issue, by prolonging its contact with the skin. When it acts as an issue, after having been quiescent for a few days, the skin around the cauterized spot inflames, and the wound discharges. After a few days the eschar falls off, and a considerable amount of irritation is kept up for about six weeks. In chronic uterine affections, with great and widely-spread neuralgia, the remedy is of service; and these pain-

ful external sores seem to divert nervous irritability from the deeper pathological centres of morbid action. Sir A. Carlisle, Drs. Corrigan and Day, Jobert de Lamballe, Mayor de Lausanne, Sédillot, and Bouvier, have warmly praised the actual cautery in the treatment of neuralgic affections, which are, for the most part, superficial, and Dr. Brown-Séquard affirms that the cauterization of the nape of the neck by moxas, or the red-hot iron, is the most effectual way of lessening the too great excitability of the nervous centres. Valleix made transcurrent cauterization the basis of his treatment of such complaints, and Dr. Day praises its use in neuralgic affections of the aged, while Dr. Mitchell, of Dublin, thus relieves the lumbo-dorsal and other fixed pains, to which women are peculiarly liable.

BLISTERING THE CERVIX.—I prefer Dr. Robert Johns's plan of painting the neck of the womb, two or three times, with a camel's-hair brush, steeped in a concentrated solution of cantharides in sulphuric ether, mixed with the ordinary solution of gutta-percha in chloroform, in the proportion of two parts of the former and one of the latter, but, I think, the advantages of directly blistering the neck of the womb have been exaggerated by the late Dr. Aran and Dr. R. Johns. I have sometimes found it subdue the subacute chronic irritation and swelling of the neck of the womb, and, I learn from Dr. Emmet, that he frequently adopts this course in cases of retroflexion; it would be well if this were carefully tried in one of our large hospitals.

SETONS AND ISSUES.—Those who practised in England, long before the present generation, frequently applied issues and perpetual blisters to patients suffering from chronic complaints. They thought that, by these means, they could eliminate from the blood certain constitutional impurities; considering that, in such, the system had acquired the habit, and therefore the want, of some permanent irritation, and that, by establishing a sufficiently active superficial focus of irritation, it might cause blood-currents to set in habitually toward the periphery, and thereby relieve the deep-seated centres of pathological irritation. This doctrine has been credited from the oldest times, and may be true, but issues have gone so much out of fashion, that few medical men are able to speak from experience upon a medication which is very repugnant to the patients, from being both painful and dirty. It was not at all uncommon, toward the end of the last century, to apply a seton

to the labia for the cure of uterine affections: I have no experience of this remedy, but I have applied three or four silk threads as a seton, above the pubes, in chronic affections of the body of the womb, telling the patient to shift the thread every day; and, as it gives little pain and discharge, the plan is deserving of more extensive trial, the more so as I find that Mr. Walker, the ophthalmic surgeon of the Infirmary of Edinburgh, has been in the habit of prescribing, with great success, single-thread setons in the temple for chronic diseases of the eyes. I adopted it at the suggestion of Huguier, and think it useful.

An issue at the pit of the stomach is an heroic remedy for the incoercible sickness of uterine affections, and Dr. F. Churchill agrees with Fothergill in the utility of applying issues and blisters at the change of life to those who, in youth, have been relieved from cutaneous or other disorders, by the establishment of the menstrual flow. He says: "I have repeatedly tried caustic issues, or perpetual blisters, with the greatest advantage. They certainly aid the action of the remedies, and, I think, prevent the recurrence of those irregular congestions which Dr. Fothergill has described." Gardanne and B. de Boismont likewise speak confidently on the utility of issues, in preventing diseases at the change of life.

The application of issues to the neck of the womb itself is a modern idea, and a hard, hypertrophied neck of the womb may be often advantageously modified by the application of *potassa fusa c. calce*; but this will be fully considered in the chapter on caustics.

CHAPTER VI.

CAUSTICS.

WHEN vital energy is above par, inflammation often subsides without ulceration, and accidental wounds speedily heal; when, on the contrary, vital energy is below par, inflammation leads to ulceration, and wounds become ulcers. In ulcers that have been called atonic, a pallid, flat surface secretes a serous fluid, and seems to originate in a deficiency of that power of reconstruction on which depends the integrity of every tissue. More frequently, however, ulcers show a great exuberance of vital energy; the surrounding vessels are enlarged, and impart a deeper color to the diseased tissues, which are turgid, and warmer than usual, secreting abundantly pus and cells. If Dr. Beale be right in asserting that pus lives upon tissue, which is actually destroyed by the growth of living pus, then it is easy to understand the frequent occurrence of inflammation in some portion of the genital tractus, for there is seldom any difficulty in finding pus in the cells of the vaginal epithelium, which comes away in vaginal discharges. The frequency of thickening and ulceration of the lower lip of the womb depends upon the action of its too abundant acid secretions upon the alkaline secretions of the vagina. When the lining membrane of the womb is acutely inflamed, the serous discharge that comes away in gushes, scalds the vagina, and inflames the vulva and the adjacent skin: something similar occurs in the more frequent cases of less acute inflammation of the inner womb. Its hyper-acid secretion continually trickles over the lower lip, removes its epithelium, prevents its reconstruction, and this causes ulceration as effectually as if diluted nitric acid were repeatedly dropped upon the skin of the hand, or as if a blistered surface were so irritated as not to be allowed to heal. Too great impor-

tance has been attributed to ulceration of the cervix in the production of diseases of women; but there is no denying its frequency, or its real meaning as a substantive disease, or as the sign of more important lesions in the cervical canal, and in the womb itself. After very careful consideration of the subject, I do not see how we can avoid classing under the same term of ulcer, the slight erosions or exulcerations of the womb, which are only important for the diagnosis of the case; and the more extensive destruction of tissue, that would be called ulceration by all pathologists. These erosions, by persisting and multiplying, in time give to the end of the cervix the appearance of a large raspberry, secreting thick pus. If, after having been blistered, the denuded surface of the skin continues raw and secretes a sero-purulent fluid, what is it but an ulcer? and by what other name can it be called? In like manner must the permanent epithelial denudation of the skin around the os uteri be called an ulcer. Of course, we ought to distinguish between the severer forms of ulceration and the erosions and ulcerations which are the slighter and earlier manifestations of the same phenomenon, just as we should speak of the raw surface of an unhealing blister as a superficial sore.

If this be sound pathology, it stands to reason that, to cure uterine ulceration, the first indication is to strengthen the conservative force by suitable food, stimulants, and tonics. At a rough guess I dare say that, by these means, some fifty per cent. of ulcerative lesions of the uterine mucous membrane are cured. If, in addition to tonics, vaginal injections, and the other measures set forth in the chapter on Home Treatment, are carefully carried out, perhaps thirty per cent. of the somewhat more severe cases of uterine ulceration would get well. With regard to the remaining twenty per cent., the patients may have rested on the sofa till rest became fatigue; they may have been drenched with tonic medicines, and have used injections till they have lost all faith in them, but they do not recover. Whether this depends on a bad constitution or on the traumatic influence of abortion and parturition, or on the fact of the sexual organs being congenitally predisposed to disease, one thing is certain, that in such patients ulceration will not heal without caustic treatment. Strong astringents, like tannin and alum; cathartics, like tincture of iodine and nitrate of silver; strong caustics, like potassa fusa; when applied to an ulcer act on its nerves, and so modify the nutrition of the sore, that the ulcer heals.

Besides this mode of acting, common to all the agents I have enumerated, catheterics, like nitrate of silver and tincture of iodine, destroy the most superficial layer of cells, and form a membrane over the ulcer which protects it for a time, and restrains the subsequent vital changes that are taking place. Real caustics, like potassa fusa, actually destroy more or less tissue, in which cells have been leading a wild kind of pathological life, and substitute for an old sore, burdened with the long-standing accumulation of ill-natured cells, a fresh wound, with vessels and nerves anxiously bent on the speedy reconstruction of tissue according to its original pattern. When the ulcer on the uterine mucous membrane heals by an effort of Nature, ~~or by the application of a catheteric,~~ like nitrate of silver, no trace will remain of its previous existence; there is nothing in the appearance of the mucous membrane to permit a pathologist to suppose that it had or had not been previously ulcerated. Yet Dr. Robert Lee did not hesitate to state* at an important trial, that, as on examining a woman "there was no appearance of former disease having existed, no ulceration had ever existed at all." This statement would have gone far to ruin a fellow-practitioner of the highest respectability, if it had not been met by the contradictory evidence of Sir J. Simpson and others of high standing; and it may be mentioned that the gentleman whose reputation was thus recklessly attacked was so deservedly eminent in every way that he was soon after elected President of the British Medical Association.

When discussing the action of strong caustics I shall explain that if potassa fusa c. calce be applied to the cervix, so as to cause an eschar about a line in depth, the ulcer will heal and become covered by a healthy mucous membrane, so that the previous existence of the ulcer can only be detected, and then not always, by a slight depression. If this be the case with deep ulceration of the cervix, it will be admitted by those who have practical knowledge, that exulcerations and slight ulcerations of the womb heal without a trace of their previous existence. It would indeed be singular if the uterine mucous membrane escaped from that law which permits the ulceration of all mucous membranes to heal without cicatrix, unless the subjacent tissues have been very deeply attacked; instances of which can be occasionally witnessed when ulceration affects the mucous membrane of the mouth.

* *Chester Record*, April 11, 1863.

Writers differ respecting the importance to be attached to diseased states of the uterine mucous membrane: they attack each other's theories, or assume the monopoly of discretion in the use of heroic remedies, of which they have only lately learned the advantage; but, fortunately, when they come to the treatment of inflammatory affections of the womb, they are guided by the same principles of action. Notwithstanding Dr. Rigby's belief in the constitutional origin of uterine diseases, he admitted that uterine ulceration sometimes requires to be treated by *potassa fusa c. calce*, and even by *potassa caustica*; and although Dr. West represents the uterine inflammatory lesions of which he has proved the frequency as of little moment, still he advises his pupils to adopt exactly the plan of treatment that I shall recommend, including the strongest caustics. Those who first, in England, taught the profession the use of caustics in the treatment of uterine disease, had to encounter a general hue-and-cry; but they are now daily used even by those who raised the cry, and by all practitioners of standing, although some, like Dr. F. Churchill, prefer the nitric and muriatic acids, or others, with Dr. E. Kennedy, the acid nitrate of mercury. *Potassa c. calce* is not energetic enough for Sir J. Simpson, who uses *potassa fusa*; and the French give the preference to the actual cautery. During the last fifteen years the utility of escharotics for the cure of a host of surgical diseases has been amply shown by Bonnet, Piétrequin, Bouchacourt, and other skilful surgeons of Lyons, who have found an able exponent in Dr. Philippeaux, whose work, "On Cauterization," I strongly recommend, and as the mode of action of caustics is still so ill appreciated by the majority of practitioners, and as the advantages of their use are so inadequately recognized, I shall treat of their varied action at considerable length. When Récamier invented the speculum, it was to dress uterine ulcers with lint and cerate, or by equally mild applications. Their inutility led him and his imitators to try substances that had been found serviceable in analogous complaints of other mucous membranes; thus the utility of a solution of borax or of chlorate of potash in inflammatory affections of the mouth, caused them to be tried as uterine injections, and the same is true of acetate of lead and sulphate of zinc. If, instead of being largely diluted, these agents were given in a highly concentrated state of solution their action would be analogous to that of tincture of iodine and nitrate of

silver, which are called caustics by courtesy, but are scarcely more so than cantharides.

The utility of a solution of sulphate of zinc and of nitrate of silver, in urethral diseases, demonstrated by J. Hunter, Sir E. Home, and Lallemand, suggested their employment in uterine catarrh; and Dr. J. Braxton Hicks has recommended sticks of anhydrous sulphate of zinc as very useful and safe in the treatment of those conditions of the canal of the cervix uteri which produce cervical leucorrhœa, monorrhagia, etc. He considers that they are much more efficacious than fluid injections, because the stick can be allowed to remain in the canal, whereby a much more prolonged contact is obtained. As the solid nitrate of silver, when applied to cutaneous ulcers, was so useful, it was tried in uterine ulceration. When thus applied these agents substitute a therapeutical to a morbid action, a temporary to a permanent, and, unless they be highly concentrated or too frequently applied, they seem to abate inflammation; severe inflammatory action, on the contrary, may follow the application of real caustics, like the acid nitrate of mercury, potassa fusa c. calce, potassa caustica, and the actual cautery.

ON THE USE OF CATHERETICS.

PERCHLORIDE OF IRON.—This preparation is generally used as an hæmostatic, but it has a corrosive action, which has been utilized in the treatment of ulceration. The objection to perchloride of iron as a topical application in diseases of the womb and uterine passages is, that this salt, unless very much diluted, corrodes the epithelium of the mucous membrane lining the vagina. To prevent this corrosive action, which is caused by the presence of free hydrochloric acid, Dr. Braun adds carbonate of soda to a solution of the perchloride of iron, and converts the latter into a neutral salt. For this purpose the addition of four grains of crystallized carbonate of soda to one ounce of the liquor ferri perchloridi will generally suffice. Chloride of sodium is formed; but the hæmostatic properties of the perchloride are, Dr. Braun states, intensified rather than diminished by the alteration. Dr. Braun has used these concentrated solutions of the perchloride in various affections of the uterus, and with very good results. In cases of endometritis, hæmorrhagia, and of bleeding from small fibrous tumors, he dilates the cervix uteri by sponge-tents, and injects a small quantity of the liquor ferri into the cavity by means of the uterine syringe.

For puerperal metrosepsis and putrid vaginal discharges, from one-half to one ounce of the solution is injected by means of an elastic ball fitted to the end of a catheter. To lesions about the os and cervix uteri, Dr. Braun applies balls of compressed cotton wool saturated with a strong solution of the perchloride.

CARBOLIC ACID.—Bouchut recommended ulcerations being touched with one part of creosote dissolved in one thousand of distilled water, which reminds me of Dr. Mackenzie's recommendation of a weak solution of creosote for vaginal injections in puerperal metritis. I noticed in the first edition of this work that the utility of carbolic acid, in the treatment of cutaneous diseases, rendered it likely to be available in uterine therapeutics. Water will dissolve one per cent. of crystallized carbolic acid, and I have ordered this as an injection when the vaginal discharge was offensive, and in cases of chronic uterine disease. The liquor carbonis detergens, which is a concentrated solution of the active principles of coal-tar, may be used in similar cases in the proportion of a tablespoonful to a pint of tepid water. I have no experience of the action of the crystallized carbolic acid, but Neumann, of Vienna, has derived the following conclusions from his researches on its action when applied to organic tissues: 1. Carbolic acid, concentrated, is a powerful caustic which reaches beyond the spot of its application, and deeply affects the skin. 2. It renders the tissues transparent, but does not cause swelling. 3. The several tissue-elements of the cauterized part can be distinctly recognized in the eschar, produced by the intense caustic action of carbolic acid. 4. Carbolic acid acts upon the tissue by causing mummification rather than complete destruction. 5. It acts beneficially, not only in eczema and the affections of the skin that were formerly treated by applications of tar, but also in cases of lupus. Mr. Holmes Coote has found carbolic acid very valuable in the treatment of mucous tubercles; he has them brushed once a day with equal parts of water and carbolic acid, and insists on the constant use of a lotion containing five grains of carbolic acid to an ounce of water. Large crops of mucous tubercles have disappeared after ten days of this treatment.

CHROMIC ACID.—My friend Dr. Fordyce Barker, of New York, informs me that this acid is very much used by American practitioners, instead of nitrate of silver, for ulceration of the uterus. I find it described as consisting of a thick crystalline pulp, which,

when rightly managed, does not spread beyond the desired limits, and changing into the sesquioxide which is inert, when it has fulfilled its duty as a caustic. It must be generally used dissolved in distilled water, for we are told to apply it by dipping a glass stick into the acid. I have tried it in several cases where the solid nitrate of silver was indicated, but I do not find that it presents superior attributes. Chromic acid, diluted with equal weight of water, is sometimes used instead of tincture of iodine to the diseased uterine mucous membrane.

TINCTURE OF IODINE.—I use the simple tincture of iodine, and, since I noticed its utility in uterine affections, volumes have been written upon its use in the diseases of natural or accidentally developed closed cavities. Its local action is that of an astringent, if a slight application be made to the neck of the womb; and of a blister, if the application be prolonged for a considerable time; and, if iodine be thus freely applied every third day, the alterative action of the remedy will sometimes reduce hypertrophy of the womb, and check the growth of fibrous tumors. Thus applied, iodine enters the system, so much so, that some persons will taste it in the mouth after it has been applied to the womb. Another way of using iodine is by injections, once or twice a day, with half a pint of tepid water, adding from thirty to sixty drops of tincture of iodine. I have found these injections useful in chronic uterine inflammation, and, under similar circumstances, a hip-bath may be daily used, in which half an ounce of tincture of iodine and six ounces of subcarbonate of soda are added to the usual quantity of water. As an application to ulcerated surfaces, it cannot compete with nitrate of silver, but iodized collodion might be more useful, as it would cover the ulcer with a medicated film, and, at all events, iodine better suits some idiosyncrasies and pseudo-membranous ulcerations. I have frequently applied it advantageously in chronic inflammation of the lining membrane of the neck of the womb, painting it well, every third day, with a sable brush steeped in the tincture. The fact that diluted tincture of iodine has been often injected in fistulous passages, hydrocele, and ovarian cysts, without bad results, marks it as the best fluid to be injected into the body of the womb in cases requiring this treatment; for it has much less frequently been followed by acute metritis than a solution of nitrate of silver. I use one drachm of the tincture to an ounce of distilled water, or a stronger solution, and I inject it by

means of my double-current uterine-injection syringe. When iodine is to be injected into vulvo-vaginal cysts, it is well to use a concentrated solution, and to inject it while its contents are flowing out of the cyst, so as to insure the passage of the iodine into the cyst, instead of into the cellular tissue. Caustic tincture of iodine is a good counter-irritant, the lower part of the belly being painted with it once or twice a week, but, for other purposes, I use simple tincture of iodine; as a counter-irritant in pelvic pain or inflammation, metallic iodine may be sheathed in cotton wool, applied to the skin, and covered with adhesive cloth; it gives pain and may blister the skin.

BROMINE.—Dr. Routh has favorably reported on the use of bromine in epithelial cancer. He recommends five minims to be slowly added to fifty of spirits of wine—slowly, to prevent explosion, and then lint to be steeped in this fluid and applied to the ulcerated surface. While acting as a strong caustic, it checks blood-loss, and is a powerful detergent.

NITRATE OF SILVER.—In an admirable book on “Lunar Caustic,” Mr. Higginbottom showed its power in curing various forms of cutaneous inflammation. Although the book was published in 1822, the remedy has lost none of its reputation; and Chassaignac’s panacea for all wounds is, a solution of sixty grains of nitrate of silver in an ounce of distilled water. In the preface of his work, Mr. Higginbottom asked whether, “as the application of nitrate of silver is a means of subduing external inflammation, it might not, on the same principle, be of service in the treatment of internal phlegmasia?” Many eminent practitioners have answered the question in the affirmative. Bretonneau, and, more recently, Horace Green, have shown its utility in affections of the larynx and pharynx; Velpeau established its value in ophthalmic surgery; Trousseau in infantile diarrhœa; several East Indian practitioners in dysentery; Mr. Curling in the affections of the rectum; and its advantageous application to the cure of the inflammatory affections of the urethra in the male has been abundantly established. As regards the inflammation of the mucous membrane of the female reproductive organs, Dr. Jewel, in 1830, strongly advocated its use; and he was supported by the late Dr. Addison, in a little work written to prove that the disciples of Abernethy had lost sight of the ill effects produced on the system by the continuance of local irritation, and were carrying too far the doctrine of the

constitutional origin of local diseases. I have no hesitation in saying that nitrate of silver is the most valuable of all the agents, by which it is possible to cure inflammatory affections of the reproductive mucous membrane.

MODES OF USE.—The solution, containing forty grains of nitrate of silver to an ounce of distilled water, is what I generally use, though sometimes I employ a solution of two drachms to the ounce, the solid stick, or that made pliable by the chloride of silver. A silver probe, made bright by friction, and repeatedly dipped into nitrate of silver, that has been melted by heat, is a convenient way of applying it to the lining membrane of the cervix.

The solid caustic is, of course, more potent than its solution, and, in most cases, should not be applied more than once a week; the solution cures with less pain, but requires to be more frequently applied. In all cases, it is prudent to preface the use of the nitrate of silver by linseed tea, poppyhead, and cooling injections, in the same way that Mr. Higginbottom repeatedly inculcates the utility of cold poultices, previous to applying nitrate of silver to the inflamed skin.

RANGE OF UTILITY.—Chronic uterine catarrh, or inflammation of the mucous membrane lining the neck of the womb, which pours out mucus from its innumerable follicles, seems to be the most frequent uterine disease, and the source of many other affections of the womb. Painting this diseased surface, with a brush steeped in a solution of nitrate of silver, forty grains to the ounce, every third day, during two intermenstrual periods, will frequently cure the complaint; but it has often lasted for years, and will not yield to mild measures. The introduction of the solid stick is then advisable, and the same practice is recommended by Alphonse Guérin in blennorrhagic inflammation of the cervix: he leaves the stick in contact for a minute, and he repeats the operation, two or three times, at two or three days' interval. I have sometimes left about the eighth of an inch of caustic in the cervical canal; so far, therefore, as my experience goes, should the stick accidentally break in the cervical canal, it need not excite alarm. What cannot be removed will cause more pain, some loss of blood, and, perhaps, even a return of menstruation; but the patient will be repaid for greater suffering by a speedier cure. At all events, the accident need not excite alarm, for Professor Courty, of Montpellier, mentions having intentionally left a bit of nitrate of silver in the cervix five hun-

dred times. Any inconvenience to the vagina may be obviated by placing close to the os uteri a dossil of cotton wool steeped in a solution of common salt. It has been stated by Nonat, that this mode of treatment has caused stricture of the uterine canal, in his practice, and in that of Richet. I have once met with this accident, and its occurrence would be prevented by the occasional passage of the uterine sound, for a few weeks, after the prolonged use of nitrate of silver.

As with the mucous membrane lining the cervix, so with that covering the neck of the womb: it may be of a fiery red or dusky hue, very sensitive on being touched, and secrete pus without there being the slightest abrasion. This condition may last for years, being sometimes better or worse: but it generally leads to more or less extensive denudation of villi, which gives an excoriated appearance to the lips of the womb, and these exulcerations, if numerous, may coalesce and become ulcerations. Such morbid conditions of the mucous membrane, with or without excoriation, can be cured by the application of a solution of nitrate of silver every third or fourth day. I lay stress on this, because many believe that the application of the solution of nitrate of silver is only advisable in ulceration, whereas, I know no better way of bringing back relaxed uterine mucous membranes to perfect health. We can watch this process in relaxed sore throat, and Dr. Eben. Watson, of Glasgow, has remarked that, in cases of chronic thickening and œdema of the glottis, "the nitrate of silver has a derivative action, and soon relieves by drawing out serosity from the œdematous glottis, and that the nitrate of silver excites the vessels to the healthy nutrition of the tissues." Dr. Watson recommends the parts to be bathed with the solution every day, for a fortnight, and, were it possible for us to do so, I feel convinced we might likewise cure, in a similar way, exceptionally obstinate cases of chronic uterine disease.

Mr. Higginbottom affirms that its action does not extend beyond three days after its application, and that it is generally necessary to repeat the use of this agent so soon as the epithelial pellicle has fallen off, or every third or fourth day. In many instances, this is the best way of insuring a rapid recovery; but I do not recommend too strict an adherence to this precept, as it is often well to leave five, six, or seven days' interval between the applications, or the cure of the case might be retarded. Thus, the too

prolonged action of the solid stick might convert an excoriated surface into a superficial ulcer, which would be kept open by the too frequent application of the remedy. The persistence of the ulceration might suggest the urgency of stronger caustics, whereas the ulcer will heal if left alone; this should be borne in mind by the inexperienced, or they will blame the practice for the practitioner's fault. These considerations would lead me to condemn the practice, of rubbing the fauces with a strong solution of nitrate of silver twice a day, on the appearance of white patches in the course of diphtheria, a precept given by some of our best authorities.

Whether vaginitis occur spontaneously, or as the result of uterine catarrh, it is best cured by the injection of a solution of nitrate of silver. This is an excellent idea of Dr. Jewel; but if the solution be sufficiently strong to do good, it cannot be safely trusted to the patient. The patient being placed on her back, a small glass speculum should be introduced as far as possible, and an ordinary glass syringe full of the solution of nitrate of silver should be injected. The speculum should then be very gradually withdrawn to the vicinity of the vulva, the fluid being left in contact for from three to five minutes, after which the speculum may be removed, and the fluid received in a small cup. Sometimes I apply a speculum, and, on withdrawing it, I pretty freely touch the vagina with the tough nitrate of silver, a modification of the plan recommended by Ricord, and which is most useful in cases of granular vaginitis. I recommend these injections when there is evidence of inflammation of the womb, with excoriations of its cervix, in virgins, where the integrity of the hymen prevents the introduction of the smallest speculum, and this plan should be tried before dilating or incising the hymen—an operation which is rarely required. I have made these injections in many cases, and I do not once remember having traced menorrhagia to their administration, though it seems to have occurred in the practice of Dr. F. Churchill. So many serious accidents have followed the injection of the solution of nitrate of silver into the body of the womb, that I prefer using diluted tincture of iodine, whenever intra-uterine injections may be required. It must, however, be stated, that Alphonse Guérin is not afraid of injecting a solution of nitrate of silver into the womb, of one grain to the ounce. He insists, as I have done, on the urgency of injecting the fluid gently, after ascer-

taining that it will have free egress from the uterine cavity: he states that two or three injections effect the cure of chronic hemorrhagic internal metritis, and that, during the four years, that he followed the practice at the Hôpital de l'Ourcine, it never led to bad results. In very rare cases of chronic internal metritis, it may even be necessary to apply the solid nitrate of silver to the internal surface of the body of the womb, by Dr. Lente's caustic-holder, which resembles a bullet-probe. Its silver extremity, being well cleaned, and heated with a spirit-lamp, is coated with caustic, by dipping it repeatedly in melted nitrate of silver.

In follicular inflammation of the labia, in eczema, in prurigo pudendi, and pruritus, both external and vaginal, a piece of cotton wool should be soaked in the solution of nitrate of silver, and carefully rubbed, for two or three minutes, over the diseased portions of the skin and mucous membrane. Although it is said that bubo is likely to be produced, by adding more than one or two grains to the ounce of distilled water, I have not found this occur with my usual solution of forty grains to the ounce, and I can speak with confidence of the plan; for I have cured patients who had been suffering in this way for four, eight, and even thirty years. When cases have lasted so long, the pudendal skin looks and feels like parchment, as it was in the case which had lasted thirty years. I first applied the solution every day, then every other day, then every fourth and fifth day, until the skin became soft and pliable, and the sleep was no longer disturbed by darts of pain; the patient was cured in three months, and has had no relapse. This is a most disagreeable operation; it is well to grease the fingers with cold cream, to prevent their being stained, and to place an old cloth, many times folded, under the patient, or her clothes will be spoilt. After the application, the patient should be told to interfere as little as possible by lotions, so as to prevent the premature removal of the thin medicated membrane, under which the diseased skin is to become healthy.

In some cases of severe ovario-uterine inflammation, with the occasional occurrence of spontaneous sexual orgasm, I have known this to be brought on by the use of nitrate of silver. If an abscess of the vulvo-vaginal glands has not been widely opened, so as to allow it to heal from its depth upward, it will be necessary to inject a solution of nitrate of silver, to promote the obliteration of the cavity.

MODE OF ACTION.—I trust I have said enough in praise of nitrate of silver; but, in many forms of uterine inflammation, much more severe agents are required to restore the womb to a healthy state. This is admitted by so many authorities at home, in America, and in foreign countries, that I am surprised to find it asserted, in a well-known work, that "there is no good to be effected by the more powerful caustics, which cannot be accomplished by the nitrate of silver, or by other means. It is true that, by the prolonged application of the nitrate of silver, loss of substance may be caused; but this is far less likely to occur with lunar caustic, than with the more powerful escharotics. It is also true that some practitioners apply the more violent caustics so lightly that they do not exceed the milder medical action of the solid nitrate of silver; but, in such cases, it would be quite as well to use the safer remedy where a caustic is required. In applying the nitrate of silver, the aim should be not to produce any slough or loss of substance." Thus, it is clearly stated that the slight application of strong caustics is tantamount to the strongest action of nitrate of silver in like cases of uterine disease. My experience, on the contrary, teaches me, not only that it is injudicious to aim at obtaining a slough with nitrate of silver, but that it acts very much like tincture of cantharides, as suggested by Mr. Higginbottom, although the phenomena of vesication have not been sufficiently studied by means of the microscope, to permit one to assert the identity of the two processes. The distinction that Dr. Meigs draws between the antiphlogistic touches and the escharotic action of nitrate of silver does not bear examination. Leave it in the neck of the womb, it will cause more pain, loss of blood, and consequent discharge, but no destruction of tissue, unless coagulated mucus, mixed up with epithelial cells and insoluble chloride of silver, can be called such. Even when applied to a fungous ulcer, the slight loss of substance is as much due to the friction of a hard body on a pulpy surface as to the chemical combination of the neutral salt with the diseased tissues; I do not mean to assert that by larding a soft hypertrophied tissue with bits of nitrate of silver, it might not be possible to obtain an eschar: but I believe similar results would occur if a stick were used in which the Spanish fly was incorporated with gum. A densely hypertrophied neck of the womb might be whitened with the solid nitrate of silver every fourth day, until doomsday, without much reducing its bulk.

Indeed, I have seen such a plan of treatment injudiciously continued for a year or longer, in a case of hysteralgia, the neck of the womb being healthy and of an average size, and the effects were rather astringent than caustic, condensing the tissues, narrowing the cervical canal, and rendering its dilatation necessary and difficult. Thus, while nitrate of silver may be repeatedly applied, without inducing other loss of substance than the shedding of epithelium, the slightest application of the potassa fusa to the neck of the womb causes an evident loss of substance; and therefore the two agents, however applied, in similar cases, produce totally different effects. This question of surgical therapeutics has been already decided by experienced surgeons. Writing on the treatment of stricture, caused by the gristly thickening of the urethral mucous membrane, Mr. Wade records his long experience of the comparative advantages of nitrate of silver and of potassa fusa, and he states: "I cannot let this opportunity pass without again calling attention to the fact that the effects of the argenti nitratum and of the potassa fusa admit of no comparison, as they are totally dissimilar; that the former, when freely used, from its tendency to cause adhesive inflammation, has often been found to increase the urethral obstruction, whilst the remarkably solvent powers of the latter have no such tendency." * When the object is to prevent the spread of syphilis by the destruction of an incipient chancre, some surgeons have recourse to potassa fusa; and one writer observes, "that nitrate of silver, as a destructive agent, is a most unsurgeonlike remedy."

The too free use of nitrate of silver to the hardened tissues of the urethra causes urethral stricture, as the too free use of it to the cervical canal might cause stricture of the neck of the womb, but without loss of substance. Indeed, if the whole range of diseases, in which the nitrate of silver is now used, be passed in review, it will be found that its good effects are due to dynamic, astringent, and antiphlogistic properties; whereas, escharotics can only improve the nutrition of any given tissues, by the previous destruction of their superposed surface. There is another advantage to be wrought with the more powerful caustics, which cannot be accomplished by the nitrate of silver—to shorten the treatment of many cases, in which it was *at first* judiciously used. Ulceration of the neck of the womb, on a hypertrophic basis, may, doubt-

* "Stricture of the Urethra." Fourth edition, p. 117.

less, be sometimes cured by the use of nitrate of silver continued for a long time; whereas, it can be speedily cured by one or two applications of the acid nitrate of mercury, or of potassa fusa c. calce. When the inner cervix is chronically inflamed, nitrate of silver may effect a cure, but so very tediously, that it is better to resort to one or two applications of the acid nitrate of mercury, or of potassa fusa c. calce. In fungous and varicose ulceration the nitrate of silver causes the surfaces to bleed profusely, and does more harm than good; whereas, the acid nitrate of mercury and the actual cautery stop the bleeding and promote a cure. I think it right to be sparing of caustics to the neck of the womb in pregnant patients; but I have seen cases, similar to those described by Dr. Bennet, in which it was necessary to stop an abundant purulent and bloody discharge, from a large varicose ulcer, and I have done so with the acid nitrate of mercury, after doing more harm than good with the nitrate of silver.

In other words, caustics are not convertible agents: each of them has power to do what cannot be done by the others. One transcends another in the range of its peculiar efficacy, and the specialty of this power should prevent one caustic being indiscriminately used in all cases of ulceration.

DANGERS ATTENDING THE USE OF NITRATE OF SILVER.—So little are caustic agents and nitrate of silver interchangeable substances, or therapeutical equivalents, that I find nitrate of silver, in some cases, to be positively poisonous, while potassa fusa c. calce conduces to recovery. In pseudo-membranous inflammation of the neck of the womb and of the vagina, nitrate of silver acts as a poison. In a case lately under treatment, there was a small patch of false membrane on the posterior lip of the os uteri, and around it numerous ulcerations. Had I touched them with nitrate of silver, they would soon have been covered with false membranes. Tincture of iodine would not produce this effect, neither would the potassa c. calce; these, therefore, are the best means of curing this most tedious but rare complaint, of which Dr. Bennet has seen about thirty instances in ten years, and he would indorse what I affirm of such cases. Occasionally we meet with cases like two I am now attending, in which an extensive superficial excoriation of the neck of the womb bleeds profusely, even for the two following days, when only touched with the solution of nitrate of silver, which likewise makes the sore more angry. In similar instances, I

have often effected a cure by applying the acid nitrate of mercury, and by afterward dressing the wound with tincture of iodine.

Nitrate of silver applied to chancres of the neck of the womb, in their acute stage, causes them to become fungous, and to resemble epithelioma. Cases have been published, as chancre developed on a cancerous basis, which were only instances of chancre rebelling against caustic treatment. Amputation has been performed, in the belief that the disease was cancerous, both in Germany and in Paris.

ON THE USE OF STRONG CAUSTICS.

That strong caustics can be applied to wounds, without adding fuel to the fire, is doubtless singular, nevertheless, while steel-made wounds are often followed by erysipelas, phlegmonous inflammation, and purulent absorption, these secondary affections seldom attend wounds made by caustic. The knife reduces the temperature of the diseased surface by emptying its blood-vessels, and leaves the open orifices of debilitated veins and lymphatics to bathe in the decomposing fluids; whereas, caustics obliterate the capillaries, before pus and fetid fluids have been formed, and rather increase than diminish the temperature of the part. Caustics are evidently substitutive agents, for, besides the destruction of one portion of the diseased tissues, the remainder is converted into a simple acutely inflamed ulcer, in which the standard of vitality is raised to so restorative a pitch that it rapidly heals. When ulcers have become chronic, they are generally covered with a thick, luxuriant growth of irregularly developed epithelial cells, and the destruction of this upper growth by caustic, places the old ulcer in the condition of a fresh wound earnestly striving to heal. If an eschar, about two lines in depth, and of about a sixpence in diameter, be made by *potassa fusa c. calce* in an hypertrophied neck of the womb, it will frequently occur that, during the ensuing month, while the ulcer is healing, the neck of the womb becomes gradually softer and diminishes in size, the fibro-plastic interstitial deposit melts away, and the uterine structure resumes its healthy elasticity. I have, indeed, occasionally known this to happen within eight days of the application of caustic.

Before attempting an explanation, I shall allude to the well-established fact that every vessel has its attendant nerve, to be found in what anatomists generally describe as connective tissue, and my

friend Dr. Beale has demonstrated this by the microscopical examination of the vessels and nerves of the bladder of the frog. When paralyzed by some morbid influence, these vaso-motor nerves let the vessels dilate, so as to produce congestion and hypertrophy: and it is probable that the application of caustic, and the subsequent dressings of the wound by the solution of nitrate of silver, restores the tone of the paralyzed nerves, makes them contract the afferent capillary vessels, and thus cures congestion by stopping the supplies. Whenever there is a morbid process going on in the congested tissues, whether they be ulcerated or not, caustics are the most powerful modifiers of nutrition, as was first suggested, I believe, by Dr. Filhos, in 1847, who observed that there is a want of tone in a great number of ulcers, and that the superficial action of caustics is often useful to change the mode of vitality of the ulcerated surface. It is also stated by Lebert, "that life and nutrition become more energetic whenever assailed by the partial destruction of tissue, and that this explains the rapid healing of internal ulcers to which Vienna paste is applied." Mr. Wade also remarks that "potassa caustica appears to act beneficially upon stricture by relieving irritability and inflammation, by promoting absorption, by stimulating the congested vessels to contraction, and by its dissolvent powers." And again, he says: "It has always appeared to me that the great value of the caustic potash consists in its powerful solvent effect upon the tissues forming the obstruction:" truly adding, "had potassa caustica been called a *solvent*, instead of a caustic, it would have been accepted by those who are too prejudiced to adopt it." It is well thoroughly to explain what is to be understood by the solvent or melting properties of the strong caustics, for evidently some who argue against their use in surgery, can conceive no other melting away of fibro-plastic deposits in the neck of the womb than the absolute destruction of the cervix by an adequate quantity of caustic. So much on the twofold effects of strong caustics: the destruction of redundant, and the softening of hypertrophied tissues; now I must briefly relate their uses and abuses.

ACID NITRATE OF MERCURY.—This was introduced by Récamier, and was the only caustic used by Lisfranc: it is now frequently employed in the treatment of lupus, atonic ulcers of the leg, and other diseases of the skin. It is an hæmostatic, like all acid caustics, coagulates the blood that may exude from the sur-

face of an ulceration, and is, therefore, well suited as an application to fungous or varicose ulcers, and to those which have an unhealthy aspect. I sometimes apply it to the cervical canal, when nitrate of silver has been found insufficient to effect a cure. To apply this caustic, after carefully drying the ulcerated surface with cotton wool, I place a pledget of it near the rim of the speculum, moistened in a solution of bicarbonate of soda, to protect the vagina from the acid; then I steep a small piece of cotton wool in the caustic, and after well pressing it against the neck of the bottle, I apply it firmly to the diseased surface. A white eschar is thus made, which should be left to dry for a minute or two. If the caustic is to be applied to the cavity of the cervix, a small sable-hair pencil should be used. With some patients this caustic has not a stronger action than nitrate of silver; others soon experience a metallic taste in the mouth, just as some *taste* iodine soon after it has been applied to the womb. Salivation, or an attack of dysentery, has been observed in very susceptible subjects, when the caustic has been applied at once to a large surface; should this be necessary, only a portion of the ulcer should be successively touched, at a few days' interval. Orfila has stated that metallic caustics, when absorbed, seem to work their way out of the system by increased intestinal secretions, and in the case of a lady, who had been off and on, for a year, under treatment for inflammation of the cervical mucous membrane, I applied the acid nitrate of mercury with due care; but, in the evening, she was taken with severe pelvic pains and incessant passing of blood by the bowels. This lasted two days, notwithstanding the exhibition of opium, mercury, and acids. The patient had purulent uterine discharge for a few days, was convalescent in a week, and never suffered from uterine disease during the following eighteen months. The possibility of such accidents sufficiently explains the necessity of recommending the patient to keep very quiet after the application of the caustic. If this little operation leaves bridges in the vicinity of the os uteri, it shows that the caustic has been allowed to run on to the vagina by an unskilful operator. Strong nitric acid, saturated with nitrate of silver, is a good caustic, analogous to the preceding, and doubtless both owe their causticity to the free nitric acid, while the metals give them alterative properties that the pure nitric acid does not possess: this is, however, the best caustic to destroy warts, or vegetations that may form on the labia, and as an appli-

cation to irritable tumors of the urethra; it is also the best caustic for boils and carbuncles.

Crystallized acetic acid is said to be a good caustic for pudendal vegetations, and its application to be unattended by pain. I have no experience of this, nor of a kind of caustic mercury used by Plenck, for follicular inflammation of the labia, which is formed of two parts of corrosive sublimate to one of camphor and ten of alcohol.

POTASSA CAUSTICA AND POTASSA FUSA C. CALCE.—Potassa caustica was first used for the removal of cancer from the neck of the womb, by Récamier; Gendrin first tried this caustic in non-malignant diseases of the womb, as it is still habitually used for the same purpose by Sir J. Simpson and Dr. Whitehead. Vienna paste—that is, potassa c. calce, or powdered caustic potassa, mixed with from thirty to fifty per cent. of quicklime—had been used by Récamier for the treatment of uterine disease, when Dr. Filhos had the happy idea of melting two portions of lime and one of potash into the shape of a stick, which, being solid, could be easily handled, and has been principally used by its inventor and by Amussat. Without rendering it less manageable, Dr. Bennet increased the efficacy of this agent by combining two portions of potassa with one of lime. I prefer this to the caustic potash; but I shall discuss the merits of both caustics at the same time, because their chemical action and their therapeutical results are similar, although not identical. They differ as the concentrated differs from the diluted sulphuric acid, and as this latter is generally used for medicinal purposes, so potassa fusa c. calce is best for surgical use. It fortunately happens that two sets of observers, without being aware of each other's labors, have studied the effects of potassa fusa during the last thirty years; for while surgeons were treating stricture by potassa fusa Récamier and his pupils were testing the effects of potassa c. calce on ulcers of the womb, and they agree in their conclusions.

The use of potassa fusa c. calce, in the treatment of uterine disease, always suggests to those who have not used it the scooping out of a cavity in the uterine tissues and their extensive mutilation. That such erroneous notions should be generally entertained is not surprising, since some who profess to be conversant with the action of this caustic confound it with that of potassa caustica, speaking of them both as of agents that are only used for the wholesale

destruction of tissue. I dispute the testimony of those who talk of being able to melt down the neck of the womb by potassa fusa c. calce, because it does not do so. In cases of fungous or unhealthy ulceration on a hard, hypertrophic basis, I have repeatedly found how very difficult it is to cause a sufficient loss of substance by means of this caustic; and in such cases, instead of the potassa c. calce, I occasionally use potassa caustica, a much more powerful agent, which really does speedily melt down tissue, or chloride of zinc. My experience on this point is evidently that of Sir J. Simpson, who adopts potassa caustica in preference to the potassa fusa c. calce, in most cases of uterine disease requiring a strong caustic. The fact is, that in potassa fusa c. calce the caustic is effectually fettered by the fifty per cent. of lime with which it is combined, causing it to be so valuable an agent, and permitting it to be used with the same facility as the lunar stick, for one can thus let loose, at will, the corrosive agent, graduating its application to the object in view. Thus potassa fusa c. calce is an agent capable of being applied superficially; and even when more energetically used, the tissues are only destroyed very slowly, layer by layer, as the surgeon cuts through them when opening an abscess implicating a vital organ. I do not, of course, deny that it would be possible, by the long-continued friction of a large piece of potassa fusa c. calce against the neck of the womb, to cause considerable loss of substance; but the very difficulty with which this result would be obtained, and the time it would take, will amply convince any one that this agent is little calculated for the speedy destruction of tissue, and that it is best to use it as a superficial caustic. Dr. Bennet has advised the application of potassa fusa c. calce to the hypertrophied womb, so as to produce a deep slough, but he does not admit that any good is effected by the destruction of tissue that ensues; depending solely on the inflammation, subsequently set up by the caustic for any diminution in the size of the hypertrophied cervix. In this, it seems to me, that my friend is over-anxious not to excite prejudice against the caustic treatment of uterine disease, for I cannot understand how a deep slough can be obtained without real loss of substance in the first instance, and a subsequent loss by the suppuration which follows. My experience thus coincides with that of Dr. Philippeaux, who, comparing the effects of both caustics on the many diseases to which they have been applied, says of potassa fusa c. calce, that it does not run like

potassa caustica, so that its action can be well limited; that the phenomena attending the elimination of the eschar are more active, the wound firmer, redder, giving less suppuration, and that, for these reasons, it is destined to replace potassa caustica. Although I seldom use this agent, I think Dr. Routh has singularly exaggerated its ill effects in stating that it produces an ulcer as difficult to cure as that which it was intended to heal; for, leaving out of the question Dr. Bennet's and my own experience, this agent could not have been employed so extensively by Sir J. Simpson and his pupils if it made ulceration more permanent; and Mr. Wade would have long ago given up its use for the cure of those urethral indurations which cause stricture. Having thus explained the gradually destructive action of potassa fusa c. calce, as distinguished from the more sudden melting down of tissues, for which potassa caustica is more suitable, I shall state what are the cases of uterine disease in which I have found it right to use potassa c. calce.

RANGE OF UTILITY.—When there is an unhealthy condition of the lining membrane of the neck of the womb without ulceration, so far as it is possible to ascertain, but nevertheless undermining the patient's health by constant discharge and pain, I try in succession, tincture of iodine, nitrate of silver, and the acid nitrate of mercury; and if these fail, I pass the stick of potassa fusa c. calce into the neck of the womb, leaving it in contact from five to fifteen seconds. When there is a more or less extensive fibro-plastic deposit or hypertrophy in the vicinity of the os uteri, leading to repeated ulceration and to the persistence of uterine symptoms, Lebert truly says that such ulcers will not heal of their own accord; that they require the knife, compression, or caustic. They may be often healed over by the nitrate of silver and the acid nitrate of mercury, but the surface will relapse into ulceration unless a layer of the unhealthy uterine tissue be removed by potassa fusa c. calce. The disappearance of the hardness depends, however, not only on the destruction of a small portion of tissue, but also on the subjacent absorbents being stimulated to improved action. If, after the subsidence of all inflammation, hardness still remains, I renew the application, for, until the fibro-plastic deposit be absorbed, the superposed mucous membrane will break out into ulceration on the slightest morbid impulse. This is the safest mode of treatment, but it may require to be spread over six months. When time is an object, and when there is a large amount of fibro-plastic deposit,

it may be preferable to melt down at once a larger portion of the hardened tissues by means of the potassa caustica, or the chloride of zinc, instead of prolonging the treatment by repeated applications of the potassa c. calce.

In those forms of highly irritable ulceration with soft hypertrophy, which are differently described by authors, as a soft engorgement of the neck of the womb, with frequent sanguineous discharges; as a doughy, boggy swelling of the womb; or as an erectile condition of the womb; it is seldom advisable to irritate the diseased surface, by repeated applications of the solid or liquid nitrate of silver, which would increase the suffering, the discharge, and the extent of the ulceration. The speedy destruction of a diseased surface, and the increased activity of nutrition, with which the subjacent tissues then become endowed, is what is wanted in such cases, and there is no better agent than the potassa c. calce; in like manner Mr. Wade remarks that "the good effects of potassa fusa are often strikingly manifested in highly irritable and very vascular strictures, which readily bleed upon slight pressure of the bougie. In many cases, three or four mild applications of the caustic will be found to remove both their irritability and their hæmorrhagic disposition, so as to render them dilatable."

In pseudo-membranous ulceration of the neck of the womb, there is no better application than the potassa fusa c. calce, dressing the sore afterward with tincture of iodine. Simple hypertrophy of the neck of the womb, without any morbid condition of its mucous membrane, may cause many distressing symptoms, and be so little influenced by leeches, scarifications, astringents, mercury, and iodine, that it may be advisable, in some cases, to seek to effect a cure by applying an issue to the hypertrophied tissues. I wish it, however, to be distinctly understood, that I do not advise this mode of treatment in ordinary cases of hypertrophy, but only in exceptional cases. When I apply an issue to the healthy mucous membrane covering a hard hypertrophied cervix, as if I were applying an issue to the skin, potassa fusa c. calce is not sufficiently powerful, and as the object is to produce a speedy and a deep loss of substance, I prefer potassa caustica, or the chloride of zinc. While the wound is healing I freely saturate it, as well as the tangible portion of the womb, with tincture of iodine, every third or fourth day. It will thus be seen that I seldom use potassa caustica; and I strongly advise those, who are feeling their way in the treatment

of uterine disease by real caustics, not to try it at all, until they have familiarized themselves with the use of potassa c. calce, which is so much more manageable.

Amussat has even recommended the application of potassa fusa c. calce to the inside of the womb, in cases of chronic internal metritis, leading to repeated flooding, stating that he has often done so with success. I have no experience of the plan, and while admitting that desperate measures are warrantable in desperate cases, I have found the abrasion of the internal mucous membrane, with the uterine curette to be sufficient, but I now generally have recourse to injections of a solution of tincture of iodine, or of the perchloride of iron.

Amussat, having seen uterine cauterizations unintentionally produce the replacement of a retroverted uterus, by causing the neck of the uterus to adhere to the vagina, purposely cauterized the neck of the womb and the corresponding portion of the vagina, and thus succeeded in setting right a retroverted uterus. Dysmenorrhœa was likewise cured, and the effects of the operation did not interfere with parturition. Although this plan was successful in the hands of its originator, it does not deserve to be adopted, on account of the fear of not being able to control the effects of the caustic applied to the vagina, of the danger of parturition being interfered with by extensive cicatrices, and because cauterization did not always produce the desired effect. Professor Faye, of Christiania, to cure retroflexion of the womb, cauterizes the inner cavity of the cervix with the stick of potassa fusa c. calce, with the view of rendering it subsequently less liable to inflammation, and of enabling it to bear, with impunity, the presence of a stem pessary.

Potassa fusa c. calce has been applied to the vagina to narrow its diameter, and to better support a prolapsed womb; the acid nitrate of mercury has been used for a similar purpose, but I prefer the removal of a longitudinal strip of the vagina, to the use of caustics, in the rare cases requiring such measures. This caustic has likewise been recommended, as the best for pudendal esthiomene, a disease akin to lupus. When the neck of the womb simulates prolapsus, and is so long as to interfere with active exertion, or with matrimonial intercourse, I have twice removed about one inch and a half by potassa caustica, and the patients did well. There was no great loss of blood, and the relief was as effectual as if the knife had been used as proposed by Huguier.

Potassa fusa is a valuable means of safely opening pelvic abscesses, for adhesive inflammation spreads all round the eschar formed by the caustic. I have cured an ovarian cyst by the repeated application of the caustic potash, so as to open the cyst, after the establishment of adhesive inflammation between the opposite peritoneal surfaces, all round the opening; not that I would repeat this operation, now that injections of iodine have been often found to cure the monolocular cysts, and that ovariectomy has taken rank among legitimate operations. I have cured vomiting, which yielded to no other remedy, by the application of caustic potash to the epigastrium, and by keeping the wound open. This caustic is still used for the treatment of stricture of the urethra, for the cure of indolent ulcers of the legs; and has been highly praised as an application to reduce the size of enlarged tonsils.

I might have devoted more space to explain the benefit to be derived from potassa fusa c. calce, but, as this has been so amply done by Dr. Bennet, I refer with the more pleasure to his work, as other writers have borrowed largely from it, repaying the loan by scanty acknowledgments, acidulated praise, or invidious criticisms. For having clearly proved its utility in a certain number of otherwise almost incurable complaints, Dr. Bennet will ever be entitled to grateful recollection. If he be at all to blame, it is, for not having more forcibly stated the dangers attendant on the injudicious use of strong caustics, so as to diminish the likelihood of their occurrence. Upon this head too much cannot be said, so I shall now proceed to explain with what precautions potassa c. calce should be used.

MODE OF APPLYING POTASSA FUSA C. CALCE.—Comparing potassa fusa c. calce with the chloride of zinc and other strong mineral caustics, Dr. Philippeaux extols the former, because, although energetic, it gives little pain, produces slight reaction on the adjacent tissues, causing compounds that have no dangerous action should they be absorbed. To a great extent, this is true of potassa fusa c. calce, when applied to uterine diseased tissues; and, I believe, it would be followed by few accidents, if the patients kept quiet for the few following days, and if the remedy were never applied without a searching examination of the pelvic organs, to make sure that there is no inflammatory action lurking in the womb or in the adjacent organs: this should never be lost sight of by the practitioner, whenever he intends to take a strong caustic

in hand. From neglecting this golden rule, I have seen chronic ovaritis become an abscess, causing death by suddenly bursting into the peritoneum; and, in a few instances, it has made chronic pelvi-peritonitis become acute. Aran has also seen the potential and the actual cautery cause death by acute peritonitis in several patients, in whom the previous existence of inflammation of the ovary and oviduct had been overlooked. It is likewise injudicious to apply the strongest caustics without having previously tested the susceptibility of the uterine tissues, in each particular case, by the previous use of the milder ones.

With respect to the time to be chosen for the performance of the operation, it is well not to fix on a day too near a menstrual epoch past or to come. More than once, however, I have applied potassa fusa c. calce to the neck of the womb a few days after menstruation was due. The caustic acted as an emmenagogue, bringing on an unusually abundant flow. The physiological function and the therapeutical process did not interfere with each other, and there was a singular immunity from pain. Another point of great importance is, never to apply potassa fusa c. calce, and still less potassa caustica, unless the diseased part of the womb can be brought well into view, and easily retained there by means of the speculum, or of the uterine tenaculum. A lady was lately under my care for hypertrophy of the neck of the womb, with an inflammatory condition of its internal lining membrane causing yellow discharge, constant abdominal pains, nausea, and hysterical symptoms. I improved her state by the use of nitrate of silver, and the acid nitrate of mercury; these remedies were, however, insufficient to cure; the womb was so anteverted that I could not safely apply potassa fusa c. calce, so I sent her out of town for three months to recruit her general health; when she returned, the womb had so far recovered its right position, that I could bring it fairly into view; and one application of the potassa fusa c. calce was sufficient to effect a cure.

The patient being so disposed, that full light may be thrown on the spot to be operated upon, a smooth bit of potassa fusa c. calce should be chosen, one without efflorescence or loosely adherent particles, and therefore not liable to break or splinter during the operation. This is of importance, for I have known a loose particle of the caustic fall on the labium, and cause a small ulcer, which gave greater pain to the patient than the much more severe

uterine application; for this reason I seldom use the small-size sticks, as they are more liable to effloresce and to break. When the caustic is fixed in a long-handled caustic-holder, the operator has full control over it, and does not feel afraid of its falling from the speculum forceps, which it might do when that instrument is used. One or two thin, elongated pledgets of cotton wool should be steeped in vinegar-and-water, well pressed, to free them from all surplus fluid, and be neatly jammed between the rim of the speculum and that portion of the neck of the womb on which it rests, so that they may combine with any caustic solution which might accidentally run down to the vagina, severely inflame it, and cause cicatricial bridges, a lasting proof of the operator's awkwardness. These preparatory steps being taken, I dry, with cotton wool, the spot to which the caustic is to be applied, for, as moisture is the solvent which will let loose the corrosive agent, too much moisture will cause it to run, and prevent its limitation to the cervix uteri. Then firmly grasping the caustic with the holder, I gently press it, to and fro, on the diseased surface for from half a minute to a minute, according as a slight or a deeper action is desired, or until the operation is interfered with by the surging up of blood from the capillaries—blood which remains liquid, because it is the property of all alkaline caustics to liquefy the blood. I then withdraw the caustic, soak up the blood with cotton wool, and dry the eschar, to ascertain what has been done. If further loss of substance be necessary, I again take in hand the caustic, after wiping it clean with cotton wool, and rub it again on the part already cauterized. It may even be necessary to repeat this surface-contact of the caustic three or four times, with the same precautions, and, at last, after carefully absterging the eschar, I remove the acidulated dossils, and introduce a much larger one, well saturated with vinegar-and-water and laudanum, and sufficiently large to overlap the eschar at every point of its circumference, so as to protect the vagina from any uncombined caustic, which might still remain upon the eschar. This cotton-wool cake should be firmly pressed against the eschar by the speculum forceps, while the speculum is being withdrawn; round this dossil should be fastened a bit of twine, the ends of which are tied together in a loop, left sufficiently long for the patient to be able to withdraw it herself, after a few hours. As potassa caustica breaks down more tissue, and as some portions of it may remain uncom-

bined in the midst of the pulp it has produced, acidulated water should be freely injected into the vagina; and, as a preliminary step, it is well to whiten, with the solid nitrate of silver, all such portions of the neck of the womb as the melting caustic might possibly run upon.

When potassa fusa c. calce is introduced into the cervical canal, the outer portion of the stick is immediately dissolved by the mucus, so that it is judicious not to leave the caustic in contact so long as when it is applied to the surface of the neck of the womb; ten seconds may suffice, but a longer time may be required. If a mere cold-water vaginal injection has been known to cause peritonitis, it stands to reason that it is impossible to apply an heroic remedy to the neck of the womb without running the risk of a temporary aggravation of suffering, and of inducing complications which may be far more serious: therefore the application of potassa fusa c. calce to the neck of the womb must be spoken of to the patient and her friends as a serious operation, generally followed by an aggravation of the habitual sufferings, and by much more dangerous symptoms if imprudences be committed. Unless a very small portion of the neck of the womb has been very slightly touched with potassa fusa c. calce, I keep the patient in bed, or on the sofa, for a week after the application, even when there has been little or no aggravation of ordinary symptoms; because I have seen pelvi-peritonitis come on twelve days after the application of the potassa fusa c. calce, and after the patient had several times walked half a mile, from her house to mine, without any inconvenience. Another patient felt so little the application of this caustic to the neck of the womb, that, contrary to my advice, she took a walk on the following day, and this brought on pelvi-peritonitis, vomiting, fever, and laid her up for ten days. I tell my patients to keep quiet, to remove the cotton wool in a few hours, and I prescribe a full opiate at night. Linseed-tea injections, to which laudanum may be added, are all that is required until the wound is dressed on the seventh day after the operation: for, it is useless to make an examination before that time, as no treatment is requisite until the eschar falls. If the potassa fusa c. calce has been applied to the cervical canal, or to the lips of the os uteri, it is necessary to make the patient clearly understand that she must return in a week to have the wound dressed, in order to prevent the retention of the menstrual flow. The occlusion of the os uteri

and uterine stricture are easily prevented by passing the uterine sound, or a paint-brush, charged with a solution of nitrate of silver, through the os uteri into the cervical canal; and this should be done every fourth or fifth day for the following six weeks. On the falling off of the eschar, the subjacent surface would heal of itself, but it does so more speedily when thus dressed with a solution of nitrate of silver. Should the case require another application of the potassa fusa c. calce, it is well to wait two or three months, if the patient be not pressed for time. I only remember to have once made two applications at seven days' interval, in the case of a lady sent to me from India, with internal metritis and an indolent hypertrophic swelling of the inferior lip of the womb, about as large as a small hen's egg. I made an eschar about the size of a shilling; there was no pain or other inconvenience, and when I examined her seven days afterward, the tumor was much softer and smaller, and, as there was no inflammatory reaction, I made a second application on the same spot; a little pain was the result, but the tumor was rapidly absorbed.

DANGERS ATTENDING THE USE OF POTASSA FUSA C. CALCE.—Great confusion has been created by those who have confounded the results of the application of potassa fusa c. calce to the neck of the womb with those of potassa caustica, applied under similar circumstances; so I shall carefully distinguish the results of the use of both caustics.

After cauterization by potassa fusa c. calce, all habitual abdominal pains may be increased, sometimes to an alarming extent, without peritonitis; for, if this were present, the pain would not so soon yield to a large, warm, linseed-meal poultice, well sprinkled with laudanum—to vaginal injections with a pint of warm water, containing a dessert-spoonful of laudanum—and, what is better still, to twenty drops of Battley's solution, given by the rectum, in an ounce of warm milk, to be repeated if required. To prevent pain, Piedagnel has advised mixing one part of morphia with three of Vienna powder, made into a paste with chloroform; but I prefer dressing the wound with acidulated laudanum. In detailing the modes of examining patients, I have stated that when, in rare cases, slightly touching an ulcerated womb with the finger sets the patient off into hysterical convulsions, it is justifiable to examine her under the influence of chloroform, so as to be able to treat the disease by caustic, if advisable. But I have known chloroform to

have been unnecessarily given to patients of mine, to avoid giving pain, when soothing local measures, and the use of a small speculum, with great caution, have been sufficient to carry out the treatment. Slight fever may ensue, but will soon yield to diet, effervescing draughts, and moderate action of the bowels. Potassa fusa c. calce, applied to the neck of the womb, has a strangely depressing influence on some patients, without this exhaustion being caused by pain. I have known the loss of power to last, more or less, for two or three days, and to produce fainting, a symptom noticed by Pr. Rust, of Berlin; and it is stated that small quantities of potassa fusa applied to the gristly tissues of confirmed urethral strictures, are rather sedative than irritating, and diminish the patient's liability to retention of urine. I have not seen debility assume an alarming aspect; and diffusible stimuli, wine or brandy, in small quantities, will correct the exhaustion, which seldom lasts more than a day or two. I have already related how the application of potassa fusa c. calce brought on a return of hysterical insanity; and, as a rule, one may look out for the recurrence, or the aggravation, of the symptoms to which the patient has been most liable through life.

Acute inflammation of the body of the womb is the accident one would expect most likely to occur, but I have only once observed it. Gendrin and Richet have met with this result, but I do not remember its occurrence being mentioned by other authors. Flooding I have observed several times in those subject to metrorrhagia: and occasionally there will be a slight oozing of blood from the wound left by the fall of the eschar. This might be detrimental if it were allowed to continue, but I have always been able to stop it by styptic injections, or by a slight application of perchloride of iron. I have once seen the use of this caustic followed by a sharp attack of pelvi-peritonitis, and I suspect that this occurred in another case, but both patients recovered without permanent damage. Dr. Bennet has twice seen potassa fusa c. calce, applied by himself, followed by pelvic abscess. Gendrin and Dr. West have had several cases brought on by the same cause; and Dr. Aran has known it to produce ovaritis, which proved fatal after many months of suffering.

Partial or complete retention of the menstrual flow I consider to be an avoidable result of cauterization of the neck of the womb with potassa fusa c. calce. This accident may depend upon too

severe cauterization of the cervical canal, or on the operator's neglecting to pass a paint-brush or a sound through the os uteri and into the cervix every fourth or fifth day, until the recurrence of the catamenia, or on the patient's neglecting to apply for treatment; for, in a patient on whom I made an energetic application of potassa fusa c. calce to the os uteri, and who did not attend to have the wound dressed, very severe pain occurred at the next menstrual period, without the flow making its appearance. At the following period the pain was so intense that she came back to the Farringdon Dispensary, and, on examination, there was a livid mark in a membranous tissue covering the os uteri. I made a small crucial incision, which gave issue to a teacupful of dark, syrupy blood. It was sufficient to touch twice the edges of the divided tissue with nitrate of silver, to prevent the recurrence of the accident, and there was no further impediment to the menstrual flow. Similar cases have been seen by Drs. Bennet, M. Sims, and by Mr. Williams—*London Medical Gazette*, 1850. In these cases the obstacle was formed by a membranous tissue uniting the lips of the os uteri, for it was easily divided. Once I have had to divide this membrane five years after the cessation of menstruation, to free an accumulation of uterine mucus, and in two other cases I believe moderate but frequently-recurring pelvic pains were induced by the same cause, the result of the removal of small polypi by potassa fusa c. calce; so I lay it down as a rule that the freedom of the cervical canal should not be compromised by caustic applications whatever may be the patient's age. If too much potassa fusa c. calce were applied to the cervical canal, it might lead to the agglutination of the walls of the canal by adhesive inflammation, and to a permanent or an occasional obstruction of the menstrual flow, necessitating its dilatation. This has been noted by Dr. Bennet and Dr. Bernutz, although, strange to say, the application of strong caustics to the cervical canal is not mentioned as a cause of uterine stricture in Sir J. Simpson's lecture "On Obstructive Dysmenorrhœa." The fibro-vascular tissue of the womb differs from that of the vagina, which is only a modified skin, so that while potassa fusa c. calce, when applied to the os uteri, leaves no trace after a few months, unless considerable loss of substance has been made, this caustic, if applied to the vagina, will severely inflame it, and produce bridles of nodular tissue, like the cicatrices of severely-burnt skin extending from the womb to the vagina.

The thickness of these adventitious bands will be proportionate to the amount of caustic allowed to run; those I have seen were slight, and I have never met with firm adhesions strongly binding down the womb to the vagina after the use of potassa fusa c. calce. I believe they are always to be attributed to the use of potassa caustica, and, while admitting that, if firm and extensive, they might interfere with parturition, those I have seen have had no detrimental influence on the patient's health or on parturition.

It has been objected that the death of a patient has been caused by strong caustic perforating the vagina behind the posterior lip of the uterus, fatal peritonitis ensuing; and I can understand the occurrence from the bungling use of too much potassa caustica; but to produce such a result with potassa fusa c. calce can only be a wilful act of the operator. One might as well object to the application of the acid nitrate of mercury, with a small paint-brush to an ulcer of the os uteri, because, in a case recorded by Boivin and Dugès, a surgeon perforated the vagina by leaving behind the posterior lip of the os uteri a lump of lint soaked in this caustic. It is mentioned by Dr. Nonat that, out of twenty-eight applications of potassa fusa c. calce made by Richet, one patient was flooded, two suffered from acute metritis, and three had pelvi-peritonitis. In the absence of all details, I can only express my surprise at such results, nor do they agree with Dr. Nonat's experience of potassa fusa c. calce. I have recorded all I know against the use of potassa fusa c. calce; and if, after reading the list of accidents attendant on its use, it should be said, "Why play with a two-edged sword?" I reply, that while I effectually cure most of my patients by milder measures, they are ineffectual in a small number of cases, so I consider myself obliged to use an ascending scale of stronger remedies, with the knowledge that, however well applied, some accidents are inevitable, for, if practice is to be shaped on exceptional cases, the use of every heroic remedy must be renounced.

To the assertion that nitrate of silver is the only caustic required in the treatment of uterine inflammation, my practice gives an emphatic contradiction, reëchoed by the voice of authorities too numerous to be mentioned. Sir Everard Home freely used nitrate of silver in cases of stricture of the urethra; nevertheless he states, in his work on stricture, that "in cases of failure from the strictured part having become so hard and thick as not to be de-

stroyed by the nitrate of silver, it is to be regretted that we have not a more powerful caustic, capable of being applied to the urethra, since that is all that is required for their removal." Mr. Whately first showed the practicability of safely destroying the gristly texture of the urethra by potassa caustica. This plan of treatment has been sanctioned by Pr. Lizars, and by Dr. Gross, of America; its advantages have been admitted by Mr. Campbell de Morgan, Mr. Henry Smith, Mr. Le Gros Clark, and powerfully advocated by Mr. Wade.

DANGERS ATTENDING THE USE OF POTASSA CAUSTICA.—Although unable to treat fully of these dangers because I generally use other caustics, my attempting to do so may be useful in suggesting to others to fill up an imperfect sketch, although they have let two editions of this work pass without having done so. Sir J. Simpson, explaining his preference for potassa fusa and his mode of using it in the treatment of inflammatory induration of the neck of the womb, writes that "latterly he had abandoned other escharotics, and always used the common potassa fusa. He had found it far more manageable, speedy, and certain than any other method. He used it, of course, through the speculum, applying a stick of it freely, with a proper caustic-holder, to the ulcerated and indurated tissues. It required to be rubbed or held *strongly* for a time against the part which was to be destroyed. *In general, a piece three-quarters of an inch or an inch long was melted down. The decomposition produced by it often caused a hissing sound.* If the induration is extensive and the whole cannot be removed at once, increased action and absorption are set up in what remains. Absorption in this way is truly one of the results or consequences of inflammation, though still an undescribed termination. In some aggravated cases two or more applications are required, at intervals of eight or ten days. He had never seen pelvic cellulitis or any other bad results follow. The appearance after the operation is as if a portion had been clean cut out with a knife. A large quantity of vinegar-and-water is immediately thrown up through the speculum to neutralize the potassa and prevent it from injuring the sound parts."

Since this statement was first published, in 1847, in the *Edinburgh Monthly Journal*, his very short communication has been reprinted, in 1855, in Sir J. Simpson's collected works, and without any comment: so we are asked to believe that, up to that time,

he had never seen any bad result follow the application of an inch of potassa caustica to the neck of the womb, even when reapplied at eight or ten days' interval. In giving to so powerful a plan of treatment the sanction of his name, it is deeply to be regretted that he did not put those who would be sure to imitate him more on their guard; for though, doubtless, in his experienced hands, potassa caustica may be a very useful agent, it might be a dangerous weapon in the hands of inexperienced pupils and junior practitioners. Sir J. Simpson has entered fully into the subject of caustics, applicable to the treatment of cancerous affections of the womb, in the *Clinical Lectures*, published in 1859, and the judicious manner in which he has treated the question makes me regret that he has not also lectured on the use of potassa caustica in non-malignant affections of the neck of the womb; the more so, as Dr. James Duncan, of Edinburgh, informs me that he has pretty certain knowledge of potassa caustica having caused the death of patients, by pelvic abscesses and perforation of the peritoneum. Dr. Macrae, in large practice at Calcutta, has seen many cases exemplifying the injudicious use of potassa caustica, by the enthusiastic pupils of Sir J. Simpson, who have passed, from his class, to the up-country stations in India. As even potassa fusa c. calce occasionally produces serious accidents, it is quite impossible to believe that inexperienced practitioners can apply an inch of potassa caustica, to the neck of the womb, without sometimes causing still more formidable accidents; but though this practice has been followed during fourteen years, still very few untoward accidents have come to the knowledge of the profession. It must be evident to all, that potassa caustica will be more likely to cause the untoward accidents, which will sometimes follow the application of potassa fusa c. calce. The risk of producing bridges will be greater; these bands of cicatricial tissue will be stronger; and Dr. Bennet has stated, that wherever the vagina has been compromised, in the cases that had come to his knowledge, potassa caustica had been always used. The chances of occlusion of the os uteri are greater, and I was not surprised to learn from Dr. Whitehead, whose skill is well known, that "in a number of cases wherein it was applied, both to the surfaces of the indurated labia and around their inner circle, the reduction of bulk, after healing, was attended by total closure of the os uteri: so complete was the occlusion, that it was found necessary to reopen the orifice with a

lancet, and use means to keep it open until the healing was complete. He has the record of several such cases, some of which have been since fertile, parturition having been unattended with difficulty." It is obvious that when it is a question of sudden destruction of tissue, by a *hissing caustic*, inexperienced hands will be liable to destroy too much, and remove the neck of the womb as well as its diseased tissues. This was the result of the repeated applications of potassa caustica in one of my patients; the neck of the womb cannot be seen, nor can it be felt by the finger, and at the end of the vaginal cul-de-sac there is a minute opening, scarcely permitting the introduction of a filiform bougie. This constricted passage does not, in general, prevent menstruation being regular and painless, but it must prohibit conception, or supposing this to occur, I doubt whether parturition would be safely performed. Dr. T. Smith has met with two similar cases, in which the lower part of the neck of the womb was destroyed by potassa caustica. Almost irremediable sterility must be expected in all cases similar to the three last mentioned, or should parturition ever take place, the worst consequences would ensue. I should be very sorry to saddle potassa caustica with the responsibilities of potassa fusa c. calce; but, from what I have witnessed, and from a knowledge of the potent action of potassa caustica, I feel persuaded that this agent was used in most of the cases brought forward as instances of the injurious effects of caustic treatment. The important question on which I seek to be instructed, will, I still hope, be taken up by some of the distinguished men who do honor to Scotland's most illustrious obstetric authority, so as to enlighten the profession respecting the relative action, and the danger of using the two caustics under notice.

Influence of Potassa Fusa c. Calce and of Potassa Caustica on Parturition when applied for the Treatment of Uterine Diseases.—It has been asserted that the use of all strong caustics to the neck of the womb so interferes with parturition as to render it difficult, if not dangerous: and, as every woman must be considered as a *possible* mother, until menstruation has ceased, the inquiry into the truth of this assertion is of so much importance, that I shall give a few pages to its consideration.

That certain caustics injudiciously applied to the neck of the womb, should have a prejudicial effect on parturition, might be anticipated, from our knowledge that adhesive inflammation of the

neck of the womb and its occlusion have been the results of very severe labors, of shoulder and other bad presentations, and of the unskilful use of the forceps; but when we come to sift what has been stated on the evil results of caustic treatment, it is surprising how much it consists of vague assertions. For instance: Dr. Rigby, "On the Constitutional Treatment of Uterine Disease," p. 114, says that he "has seen, in a number of cases, caustic treatment produce severe uterine inflammation and its chronic induration." The assertion is unsupported by facts, and even without mention of the particular caustic which had acted so injuriously on the uterine tissues: for evidently, as Dr. Rigby's object was to prove the injudiciousness of surgical treatment, and as he had a large practice as an accoucheur, he would have naturally considered it a duty to have brought forward whatever cases exemplified the injurious effects of caustics in parturition.

This sweeping assertion of Dr. Rigby's, to a certain extent guided Mr. Thompson, of Westerham, in his interpretation of an interesting case—*British Medical Journal*, December 12, 1857;—and although I view it in a different light, great credit is due to this observer for having recorded it. In the case alluded to, there was occlusion of the neck of the womb, its orifice being only marked by an indentation, through which the late Dr. Lever bored a passage. Learning that, twelve years previously, the lady had caustic applied to the womb for several months, and without knowing what caustic had been used, or for what disease, Mr. Thompson concluded that the caustic treatment caused the occlusion of the os uteri, and the thick, gristly, unyielding hardness of the cervix; as if hard hypertrophy of the womb were so rare a disease, occurring without any previous treatment, and sometimes impeding parturition, as in Mr. Highmore's case—*Lancet*, vol. ii., 1852, p. 174—and Dr. Roe's—*Lancet*, 1851, p. 569. Mr. Thompson sought to strengthen his position, by quoting an instance published by Dr. Mayne, of Leeds. This distinguished practitioner related—*British Medical Journal*, 1857, p. 925—the case of a woman, who, after having had children, suffered from uterine disease, "was treated on Dr. Bennet's principles" for a few weeks, was soon restored to perfect health, and who, two years afterward, when at the fifth month of pregnancy, went to Manchester by an excursion train, which brought on adhesive inflammation of the neck of the womb and its absolute obliteration. Labor came on at the full time; Dr.

Mayne made an incision into the uterus, and extracted the child, without any unfavorable result to the child or its mother. Upon this case Mr. Thompson remarks, "that it is impossible to read Dr. Mayne's case without a suspicion as to whether the treatment of the previous disease had not a share in producing the hardness and contraction of the part." Entertaining doubts upon this point, I wrote to Dr. Mayne, who replied: "Mrs. W. came under my care at the close of 1855, for about two months, and was restored to health, so far as the *os uteri* was concerned, by the application of *potassa fusa c. calce*. I delivered her on January 5, 1857; from this it appears she enjoyed good health, from the beginning of 1856, till four or five months after she became aware of pregnancy, which must have taken place early in April of that year; so that, for about eight months after the application of the *potassa*, she was in full health. The fancied 'hardness and thickening' of the cervix, had they existed, would, I imagine, have attracted my attention in some way, but they did not; whereas, the jaunt to Manchester, in her fifth month of pregnancy, by a cheap excursion train, with its privation and annoyances, especially in *her* condition, were amply sufficient, as I judge, to excite active inflammation in an organ already disposed to that state. Mrs. W. was again delivered by me of a healthy child on December 18, 1858. Last April she again presented herself as experiencing some uneasiness, and, on examination, I discovered neither 'hardness' nor 'contraction,' but only a slight degree of ulceration of the orifice of the womb, for which I treated the part with the *nitras argenti*. She soon got well, and I *suspect* is again pregnant."

This case, when fully elucidated, instead of telling against the use of *potassa fusa c. calce*, confirms its innocuity. The obliteration of the *os uteri*, from inflammation occurring after conception, is doubtless very rare, but it has been admitted by Burns, Desormeaux, and Paul Dubois. An instance has been published by Mr. Shepperd—*Lancet*, p. 217, 1851—in which the obliteration of the neck of the womb, requiring an incision to deliver the patient, was caused by hypertrophy and chronic inflammation, without any previous surgical treatment of the disease. Dr. Taylor has also published—*Lancet*, January 11, 1868—a case of complete occlusion of the *os uteri*, requiring its division, to enable him to perforate the cranium, and deliver a woman of a first and full-grown child. Neither in this case had there been evidence of uterine disease

prior to marriage or during pregnancy, much less of any treatment by caustic. Dr. T. Smith's remarks on the prejudicial influence of caustic treatment on parturition are open to the same objection of vagueness, for he treats of "violent caustics," as if they all produced the same results, whereas his own facts sufficiently show that one energetic caustic is much less dangerous than another. To say that parturition was rendered difficult by "caustic treatment" does not enable one to form definite ideas of the value of each caustic. *Caustic* treatment may mean, nitrate of silver; the acid nitrate of mercury; potassa fusa c. calce; potassa caustica; the actual cautery, etc. What should we say to a book against narcotic poisons, in which the writer, in his cases, omitted stating what particular narcotic was fatal in one case, and what in another?

What is the influence of potassa fusa c. calce on parturition, when applied to the neck of the womb for uterine diseases?—Evidence on this question must be chiefly derived from those who have been in the habit of using this remedy, in certain given cases, and who have had to confine women, to whom they had previously applied potassa fusa c. calce for the treatment of uterine disease. Those who repudiate this mode of treatment only know of its influence on parturition from an occasional bad case, about which they may have been consulted, and, being imperfectly acquainted with its antecedents, they are liable to attribute to potassa fusa c. calce conditions which may have existed previous to its use. Personal knowledge has more weight with a jury than the recorded statements of the most reliable witnesses; so I shall first relate my own experience: It is sometimes stated that potassa fusa c. calce interferes with parturition by the hard cicatrices by which its application to the neck of the womb is followed. To this I can only say, that those who make the assertion cannot have applied potassa fusa c. calce, or watched the patient for a few months after its application. On the falling of the eschar, the wound gradually contracts, and heals without any hard cicatrix. The surface of the ulcer becomes coated with a membrane, which, if it be not a perfect mucous membrane, fulfils the office remarkably well, and, some months afterward, it is impossible to tell, either by tactile sensation or ocular demonstration, where the caustic has been applied. I therefore confirm Dr. Bennet's statement, that, even when a deep slough has been formed by the action of a powerful caustic,

such as potassa fusa or the actual cautery, in the course of a few months, or even weeks, all trace of the cicatrix disappears, and the cervix again becomes soft and supple. A slight indentation may, however, mark the spot where the caustic was applied, but I have never traced induration of the womb to the use of potassa fusa c. calce, nor have I seen it interfere with parturition by inducing rigidity of its neck. If, as has been stated, two or three applications of potassa fusa c. calce could produce a semi-cartilaginous condition of the neck of the womb, small quantities of caustic potash would not have been found so useful, by Mr. Wade and Mr. Campbell de Morgan, to soften the indurated tissues which render the urethra impervious. "The fact is, that the cicatrices of mucous membranes have not that tendency to contract, and remain firm and rigid like the cicatrices of the skin," as was lately observed by Mr. S. Lane, in alluding to the possibility of removing large portions of the mucous membrane of the rectum, without causing its permanent stricture. I have repeatedly applied potassa fusa c. calce to an indurated womb, and pregnancy has become apparent before the induration was entirely removed. In those cases, parturition was not unusually complicated—indeed, pregnancy is a wonderful solvent: as it softens the healthy cervix, so it acts on limited fibro-plastic deposits, and will often melt down a hard, hypertrophied neck of the womb, so as to render parturition safe; but, like every other vital endowment, the solvent power of pregnancy, as in Mr. Shepperd's case, has its limits, and it cannot always soften a "dense, fibrous, semi-cartilaginous ring." I have confined several patients in whom the awkward use of potassa fusa c. calce had left bridles of cicatricial tissue, extending half an inch from the os uteri to the vagina; and I have seen these bridles soften and elongate, so as in no wise to interfere with parturition. I may have attended some hundred women, whom I had cured of various forms of non-malignant uterine disease, by potassa fusa c. calce, and, in these cases, parturition presented no difficulties which could be traced to the caustic. Dr. Bennet never once found this to be the case; and, in those of his patients whom I have attended for the last fifteen years, during his prolonged absences from town, I never met with one in whom so much of the neck of the womb had been destroyed as to compromise the safety of parturition. Gendrin's experience tallies with that of Dr. Bennet and my own; and Dr. Mayne and Dr. Protheroe Smith inform me that they have

applied potassa fusa c. calce in many instances, and that in no case did it have a prejudicial effect on parturition, or on the organization of the part cauterized. M. Bouchacourt, of Lyons, assures me that he finds the actual cautery more efficacious than the other caustics to reduce chronic inflammatory swellings of the womb; and that recently a patient, who had been thus treated, was confined, in her forty-seventh year, without the slightest impediment to the dilatation of the neck of the womb. He adds: "I know of no facts proving that parturition had been made more difficult by previous application of caustics to the womb; and that objection, if at all available, would rather hold good against the use of chloride of zinc and the actual cautery, than against potassa c. calce."

Those, who maintain that the use of a corrosive agent causes parturition to be dangerous, deal in vague assertions rather than facts. I only find one very questionable case in Dr. T. Smith's work—a strong proof that potassa c. calce has no untoward influence on parturition, for when it is borne in mind that a few years ago, in a controversy with Dr. Bennet, he denounced, in the strongest terms, the use of potassa fusa c. calce and other caustics, except in malignant diseases of the womb, where they are of little or no utility, one might naturally expect that his position as an accoucheur would enable him to prove his assertion by a certain number of undeniable facts; but, out of those he has brought forward, potassa c. calce was only used in two cases, and then in conjunction with other means. In one deplorable instance, in which there were irregular cicatrization and a condition of the upper part of the vagina similar to that which follows sloughing after instrumental labor, potassa fusa c. calce was conjoined with the frequent use of *potassa caustica*, and the anterior lip of the womb had been likewise removed by the knife. It is singular that so acute a reasoner should not have perceived that he had not even one case to justify his oft-repeated statements respecting the dangers of using potassa c. calce, and its prejudicial effect on parturition.

Influence upon Parturition, of Potassa Caustica applied to the Neck of the Womb for the Treatment of Diseases.—That potassa caustica, used for the treatment of uterine disease, has often no unfavorable effect on parturition is clear, or some of Sir J. Simpson's numerous pupils would have raised their voices against it; I

know also, from my friend Dr. Whitehead, that several patients, to whom he had applied it for the treatment of hypertrophy of the womb, had become fertile, and that parturition was unattended by any difficulty. I therefore admit that, when cautiously applied, potassa caustica has often no outward effect on parturition; though, if I have not overrated the dangers attending its use, it stands to reason that one inch of so powerful a caustic cannot be applied to the neck of the womb, by inexperienced practitioners, without some risk of so great a destruction of the parts as to compromise safe delivery. Such is the case of the patient already mentioned, in whom the neck of the womb had been destroyed, with this agent, by another practitioner. Two similar instances have been brought forward by Dr. T. Smith, as the result of its application; it was also used with potassa fusa c. calce in another case, related by the same author. There is no case on record of parturition having become impossible, owing to the previous injudicious use of potassa caustica, but this may depend upon such patients having been rendered barren by its unwarrantable use. I cannot help thinking that the neck of the womb was devised with some very useful reference to parturition, and I believe its destruction, in the four cases alluded to, would have prevented safe delivery. These patients have been made to resemble those in whom the neck of the womb is *congenitally* deficient, as in Mr. Hutton's case, when it was necessary to make a crucial incision of the presenting portion of the womb and to extract a child with craniotomy forceps. These four examples of the injudicious application of potassa caustica have been seen and made known to the profession in England, where it is used by very few practitioners. Do not similar cases occur in Scotland, where potassa caustica is frequently used? If so, why are they not published? If, on the other hand, we do not know how to use potassa caustica with safety on this side of the Border, let us be distinctly told how to prevent the recurrence of such painful results; for there is little to be learned from that one sibylline page on potassa caustica, which will be found among the many that Sir J. Simpson has contributed to the advance of medical science.

Strange to say, even in his lectures on "Closures and Contractions of the Vagina"—*Medical Times and Gazette*, vol. xxxvii., p. 130—there is no mention of the possibility of their originating in the injudicious application of too large a portion of strong caustic

to the neck of the womb. Nor is the subject alluded to in his elaborate lecture on the use of caustics for the removal of cancer, which appeared in the same journal. Thus my own experience and the facts adduced to show that the safety of parturition is endangered by the use of all "violent caustics" prove that, while potassa fusa c. calce is harmless, great dangers may attend the incautious use of potassa caustica.

Influence of Potassa Caustica, applied to the Neck of the Womb for the Cure of Uterine Disease, on Premature Delivery.—I have seen no such cases, nor have I heard of any, except of one given as such by Dr. T. Smith; but, notwithstanding my prejudices against potassa caustica, I do not see how this agent can have caused the premature confinement of the lady in whom the melting down of the os and cervix uteri is said to have been followed by *extensive giving way of the cicatrices* upon the occurrence of pregnancy; for, on referring to the history of the case, at page 70, it will be found that the author is no longer positive, and merely says, "*it appeared as though the cicatrices of deep cauterizations had given way.*" The case is a good illustration of that severe form of uterine inflammation which occurs occasionally during pregnancy, and was more likely to recur in one who had previously suffered severely from uterine disease. That previous treatment by potassa caustica, *which had done good*, should be blamed for the recurrence of the disease, and the premature delivery of the patient, is rather singular. To say that the relapse was caused by the caustic treatment used to cure the disease at an earlier period seems; to me, like attributing a severe attack of bronchitis to the antimony given to cure a previous attack. In the midst of the deep fissures and excavations of a varicose ulcer, dipping deep into the cervical canal, I think the author will admit the difficulty of identifying a cicatrix, and the fact of its having given way; but it would have been interesting to have known what treatment was adopted, and whether nitrate of silver was sufficient to effect a cure; for I find that such cases can only be brought to a safe delivery by successively touching limited portions of the extensively diseased surface with the acid nitrate of mercury.

CHLORIDE OF ZINC.—When applied to the skin, this caustic gives very great pain, but I have not found it give more pain than potassa caustica, when applied to the hard and enlarged cervix with the intention of destroying a certain portion of tissue and

promoting interstitial absorption. The chloride of zinc is made into sticks that keep well a long time, and is more manageable than *potassa fusa*. When it is to be applied as an issue to the healthy uterine mucous membrane, it is well to freely rub the solid nitrate of silver on the spot two or three days previously, to soften the tissues and make them more amenable to the caustic. Before removing the speculum, the patient should be protected from any untoward action of this caustic by leaving on the cauterized surface a cake of cotton wool soaked in a strong solution of bicarbonate of soda.

ACTUAL CAUTERY.—Although I make very little use of the actual cautery in the treatment of uterine disease, this caustic is so much used in France, that a work on the treatment of uterine affections would be incomplete if it did not explain the action and the value of this remedy—a remedy, excellent in itself, but, as it requires the display of live coals, bellows, and red-hot iron, it reminds the public of mediæval tortures, peculiarly repulsive to the British mind. The actual cautery is not more efficacious than *potassa fusa c. calce*, nor more destructive than *potassa caustica*, which can be applied without an assistant; whereas, the actual cautery requires the presence of one or two assistants, which should be avoided as much as possible. If one application of the actual cautery were sufficient, it might be a motive of recommendation, but it generally requires to be repeated from four to six times; and the fact of its being easier to acquire the art of using mineral caustics than that of the actual cautery is an additional motive for preferring the former. Such are the reasons which lead me to prefer the potential to the actual cautery, although this be the least painful of all the caustics. Indeed, the principal pain of the operation is produced by the firm pressure of the rim of the speculum on the womb, previous to the application of the cautery. Two forms of cautery are used, a nummular one, about the size of a shilling, for flat surfaces, and one like the uterine sound, with an olive-like extremity. They must be heated to a white heat, or they would adhere to the cauterized surface, and could not be withdrawn without laceration, causing pain and loss of blood. The olive-like cautery is used to cauterize the cavity of the cervix, into which it should be passed and withdrawn as rapidly as possible; its deep cauterization being dangerous. The cauterization of the presenting portion of uterine tissues by the nummular cautery may be

superficial or deep. The superficial cauterization is done by applying the instrument very gently. Deep cauterization requires the firm pressure of the heated cautery to the diseased womb; and, when it is voluminous, Jobert de Lamballe often made two or three cauterizations at the same sitting. Specula made of ivory, horn, china, or wood, have been recommended, but an ordinary round metal one will do, for it does not become sufficiently heated to injure the vagina. After the operation, a plentiful supply of cold water should be injected, and the patient must keep her bed. The slough is proportionate to the intensity of the heat and to the length of its application; it falls off, from the seventh to the tenth day, leaving a wound which seldom heals before the third week.

RANGE OF APPLICATION.—The actual cautery is most justifiable in cases of spongy softening of the neck of the womb, leading to considerable loss of blood—a form of disease in which other caustics act less heroically. It is often applied to exuberant fungous ulcerations, whether they rest on soft or on hard hypertrophied tissues. The actual cautery is also used when considerable hypertrophy causes repeated relapses of uterine catarrh.

DANGERS OF APPLICATION.—The application of the actual cautery may be attended by all the accidents which occasionally follow the use of other strong caustics. It has caused death by metroperitonitis, pus being found in the womb on a post-mortem investigation. It has caused pelvic abscess, uterine stricture, and stricture of the vagina. The actual cautery has been applied, with success, to the pit of the stomach by Moscati; and a moxa, by other practitioners, to cure obstinate vomiting; transient cauterization of the skin has also been found beneficial in a host of nervous affections. Meissner mentions, in his *Treatise on Diseases of Women*, that Sadler applied a moxa over an ovarian inflamed tumor, and repeated it five days afterward, considerably diminishing its size.

ELECTRIC CAUTERY.—I have not tried this agent, which was proposed by Middeldorpf, but it has been praised by Becquerel, Dr. Ellis, and Dr. Routh.

Thus have I attempted to spread the knowledge of the advantages to be derived from caustics, not only in a comparatively small number of uterine diseases, but in many other complaints. That I have rather underrated than exaggerated the influence of

these remedies, may be gathered from an assertion lately made by one of the most original of physiologists and pathologists, Dr. Brown-Séquard, who states that "against the increased excitability of some part of the nervous centres, the best means assuredly are, the *powerful modifiers of nutrition, which I am sorry to say are so little employed by regular practitioners, the cauterization of the back of the neck by moxas or by the red-hot iron.*"

CHAPTER VII.

EMMENAGOGUES.

THAT it should concord with the perfection of womanhood to be subject every month, for thirty years, to a sanguineous discharge, which, if not always accompanied by great pain, cripples activity for several days, has been a puzzle to all who have thought of it; and as the fact does not admit of explanation, it may be as well to settle the difficulty at once by admitting, that as menstruation is the exact prototype of parturition, the penalties of the former are only part of that pain with which parturition was cursed in the first woman. The moralist may suppose that woman was thus purposely left somewhat spoiled and defaced, because there was danger of man making her the chief object of his idolatry, and in order that, in woman's estimate of herself, this frequently-recurring defacement might somewhat dash the pride of beauty with the sense of shame. From the physiologist's point of view, parturition is the climax of female power, and the main object of a woman's existence, and possibly the habitual loss of a moderate quantity of blood may enable her to bear, with impunity, the very great blood-loss that is inevitable at delivery. Though menstruation be inexplicable, it is a valuable lesson to the therapeutist. Women are moderately bled every month, or some 400 times in the course of thirty years, without being more liable than men to the common run of diseases, or more easily prostrated by them, and yet the medicine of the present day is so hoodwinked by the bugbear of debility, that it fears to ruin a patient's constitution by taking away ten ounces of *venous* blood at the onset of acute inflammation.

The menstrual flow is really the "*signum et præsidium sanitatis*," as the old writers have said, nevertheless there is no chap-

ter so unsatisfactory in treatises on therapeutics as that relating to Emmenagogues. No medicines will as certainly cause menstruation as purgatives will cause the action of the bowels; and my estimate of these remedies may be inferred from the comparatively small space held by drugs, in the following scheme of treatment, though an emmenagogue medication may often be very successful.

EMMENAGOGUES.	INDIRECT.	Tonics . . .	{ To increase the quantity of the blood. To improve the quality of the blood.
		Bleeding . . .	{ To quell inflammation. To draw blood to the lower half of the body.
		Sedatives . . .	{ To quell pain and spasmodic action.
		Mechanical . .	{ Puncture of imperforate hymen and occluded os uteri.
			{ Pelvic succussion by exercise.
	DIRECT.		{ Caloric.
			{ Cutaneous stimulants.
			{ Intestinal stimulants.
			{ Mammary stimulants.
			{ Matrimonial stimulus.
			{ Vaginal injections.
			{ Dilatation of cervix and surgical treatment.
			{ Electricity and nervous shocks.
			{ Drugs—aloes, savine, cantharides, ergot, and drastica.

With regard to the action of these remedies, some, with Dr. Headland, restrict it to the determination of uterine contraction, as a result of strong intestinal contractions produced by purgatives. It must be remembered, however, that injudiciously large doses of savine have not only violently purged the patient, but caused great agitation, syncope, delirium, and high fever, which cannot be considered symptoms of superpurgation, but rather specific actions of the drug on the nervous system. The substances recommended as emmenagogues are almost all acrid stimulants, and it is not surprising that some should have an elective influence over the reproductive organs, although the quality and measure of this influence has been, in many cases, exaggerated and misinterpreted. Whether this specific influence is the result of the action of the remedies, circulating in the blood, on the reproductive organs, or whether the remedies so influence the nerves of the ovaries, and of the womb, as to cause the determination of blood and the menstrual flow, it is impossible to say.

It is often supposed that delicate health is caused by the absence or the irregularity of the menstrual flow; but the practitioner

will be aware that both debility and the absence of menstruation often depend upon the want of good food and tonics, which may cure both. Neither will he think of giving emmenagogues until the alteration of the voice, the enlargement of the breasts, and the whole aspect of the patient intimate that the system is ripe for a new function, and suffering from its non-appearance. Every practitioner should know that the change of habitation that will eventually strengthen the system may check menstruation for several months. This holds equally good for women going on a pleasant tour, or for those confined in a prison. Under these circumstances, it is better not to interfere till the patient's health suffers from the suppression. There are women who have reached their full development without menstruating, and who have become regular soon after marriage; in many more, habitual connection has regularized menstruation, and made the flow more abundant. I must remind the reader, that if there be symptoms of inflammation of the reproductive organs, antiphlogistics are the best emmenagogues. If menstruation remain absent, notwithstanding a fair trial of judicious measures, it is necessary to make an examination, particularly if there be any abdominal enlargement, so as to ascertain if there be no womb, or an undersized one, or if the menses are intercepted by an imperforate hymen, requiring to be punctured, or by stricture of the cervical canal, requiring to be dilated. The fact of the menstrual flow being occasionally brought on by any kind of instrumental interference has led me, in a limited number of cases, to imitate one of the modes of bringing on premature confinement, to dilate the neck of the womb, as an emmenagogue, even when the cervix freely admitted the uterine sound, by the insertion of a sponge-tent in the cervix, at the time the menstrual flow was due. The pain that it caused and the efforts made by the womb to rid itself of the foreign body have been sufficient, in the majority of cases, to bring on the flow. For an account of the mode of dilating the womb, I refer the reader to page 27. This medication might be still more effective if aloin were combined with the cacao-butter used to cover the sponge-tents. The persistent globular enlargement of the body of the uterus, with a characteristic softening of its neck, will point to pregnancy, in which case it is imperative to avoid all active treatment, and to let time clear up the temporary obscurity of the diagnosis—an obscurity which is less liable to arise if the patient be married. Abdominal enlargement, caused

by double ovarian cysts, may also prevent the menstrual flow. Should the patient be about forty-five, one should think of the change of life, and alleviate the symptoms by mild measures, avoiding too active treatment. The absence of the flow being unexplained by any of the previous conditions, I should, in the first instance, refrain from medicines, but prescribe an emmenagogue regimen. During the four days previous to the probable period of its appearance, the patient should take one or two of the aloes and myrrh pills, to produce moderate action of the bowels, in imitation of that by which Nature so often begins, or accompanies, the menstrual discharge; the legs should be placed in a pail of hot water on going to bed, or a warm hip-bath may be given, with or without the addition of mustard-flour; mustard-poultices may be applied to the inner part of the thighs and to the breasts on alternate nights, but they must not be left on long enough to blister the skin; the breasts may be also dry cupped, or rubbed with stimulating liniments. Linseed-meal poultices should also be applied, as hot as possible, to the lower part of the abdomen, so as to cover the uterine and ovarian regions, and some warm drink should be taken by the patient when in bed. These measures should be repeated on menstruation becoming due for several successive months, and, if the result be unfavorable, six or eight leeches may be applied to the labia, and removed after they have drawn blood for ten minutes, an enema of hot water being given immediately after, and then a hot hip-bath. Should this be unsuccessful, with the emmenagogue regimen may be combined vaginal injections of a teaspoonful of liquid ammonia in a pint of warm milk, aloetic enemata, according to Aran's plan, or aloetic vaginal suppositories and sponge-tents.

Whenever a patient lies prostrate, in a state of hysterical coma, from the sudden suppression of the menstrual flow, hip-baths are out of the question, but hot bottles may be put to the feet, and large mustard-poultices to the legs and thighs. Stimulating enemata should also be given, containing two ounces of decoction of aloes, and twenty minims of oil of savine. The hypogastric region and inner parts of the thighs should be rubbed with a liniment containing oil of savine and tincture of cantharides. As soon as the patient can swallow, an additional attempt should be made to bring about or to increase the menstrual flow, by an emmenagogue potion, which I have sometimes given with good effect, containing

tincture of cantharides and oil of savine. Having sketched the line of conduct to be pursued, I shall now comment on some of the elements of this medication.

ANTIPHLOGISTICS.—These are evidently the best emmenagogues when congestion and inflammation prevent the menstrual flow, even when the patient's strength is scarcely above the average. If there be plethora, they are still more useful, and, in such cases, venesection used to be speedily followed by menstruation. Bleeding from the saphena vein was formerly considered more efficacious than bleeding from the arm, because it was said to determine a stronger current of blood to the lower part of the body; and, as the disuse of bleeding leaves us without personal experience, it would be better to follow the practice of those who had a larger knowledge of the remedy, and bleed from the leg, if we have the courage to go contrary to fashionable routine. When leeches are used to bring on the menstrual flow, in the absence of inflammation, they set up a blood-current toward the uterine vessels, and sometimes cause blood to flow from the uterine surface. When they are applied every month, they induce a call for an habitual loss of blood from the pelvic vessels, which the womb may afterward let flow from its own surface. Leeches applied to the cervix may likewise act as stimulants to the body of the womb, causing it to resume a forgotten function. I prefer the old fashion of applying them to the more sensitive cutaneous surface of the labia, for it causes a stronger reflex action on the part of the uterus. In either case it is well to apply five or six leeches, make them drop off when half gorged, and stop the bleeding by touching the leech-bites with salt or alum, so as to cause menstruation by congesting the womb: some recommend the removal of the leeches to be immediately followed by vaginal and rectal injections of hot water, which increases the flow from the leech-bites themselves.

TONICS.—Steel is decidedly the best tonic medicine, and I have so often seen it cause uterine congestion, or flooding, when the womb was inflamed, that I admit its stimulating action in many women. I have nothing to add to what I have already said of the tonic influence of marriage. Long-continued anxiety and fear have so often caused amenorrhœa, that the beneficent influence of cheerfulness and a happy state of mind is obvious.

PELVIC STIMULANTS.—I include under this head a variety of

measures which, in one way or another, cause a determination of blood to the pelvic blood-vessels.

EXERCISE AND PELVIC SUCCUSSION.—Falls on the sacrum, blows on the abdomen, jumping, the jolting of a bad cart on a rough road, have often brought on menstruation before its time; quick walking and dancing have had the same effect, and riding on horseback is often an admirable means of inducing the regularity of menstruation. The same result may be obtained by a systematic course of gymnastics; and the administrators of the Paris hospitals have shown their wisdom in adding a gymnastic institution to their hospital for children. The emmenagogue results of these exercises are mentioned in their reports by the physicians who attend this institution, and our large public and private schools would do well to follow this example.

CALORIC.—Heat is the most widely diffused of all stimuli, and the supreme ruler of animated nature. Its influence on menstruation is shown by the appearance of the flow about two years earlier in Hindoo women than in the Danish; by menstruation usually making its first appearance in summer in the temperate regions of the globe; and by its premature or too frequent occurrence in young women exposed to the unusually intense heat of kitchens and wash-houses, facts that I have dwelt on in my contributions to the physiology and diseases of menstruation. On the other hand, the utility of caloric applied to the lower half of the body, in various ways, to promote menstruation, is shown by the flow being usually checked by the sudden or permanent action of cold on the lower limbs. Hot pediluvia, hip-baths, and large linseed-meal poultices to the abdomen are the usual modes of applying warmth, but some women prefer the dry heat of a hot salt or bran bag. Douching the sacrum and the inner part of the thighs with warm water has been found useful. Sitting over hot water is a household remedy; warm vaginal injections have succeeded, and warm ascending douches to the womb have also been praised. The habitual maintenance of abdominal warmth, by drawers and flannel, should not be neglected, for this has often sufficed to cure the patient. I have known a few vapor or Turkish baths, accompanied by energetic rubbing and shampooing of the loins and lower limbs, bring back menstruation; and in a case where amenorrhœa was accompanied by paraplegia, both were cured, and the patient was able to walk after having been helpless for two years.

COLD.—I will not deny the utility of ice-bags applied to the lumbar and lower dorsal vertebræ, according to Dr. Chapman's plan, but I was not fortunate with their use in three cases, where very scanty menstruation could not be accounted for by disease of the womb and ovaries; the patients' strength being about the average. Dr. Routh, however, assures me that his limited experience of the remedy led him to believe that it diminished pain and prevented the menstrual flow. Dr. Rogers, who has likewise tried the ice-bags, at the Samaritan Hospital for Diseases of Women, remains undecided with regard to their action, but is impressed by the strong action of cold as a debilitating agent, rendering it desirable to carefully watch the action of the remedy.

CUTANEOUS STIMULANTS.—These act by the warmth they determine, and also by their more permanent irritation of the nerves of the skin. Mustard-flour is the household stimulant, usually added to the pediluvia and hip-baths. Liniments, containing turpentine or other stimulants, may be carefully rubbed over the abdomen. Stimulating plasters, like the pitch plaster, may excite the ovaries to healthy action. The utility of these measures explains how amenorrhœa has been cured, by dry cupping the inner part of the thighs, for several days, before the menstrual flow is due. While investigating the phenomena of menstruation, I found that habitual cutaneous eruptions of the pudenda accounted, in a few cases, for the too early appearance or too frequent occurrence of menstruation.

MAMMARY STIMULANTS.—Irritation and even tumors of the breast have preceded the return of menstruation; titillation of the breast, with or without stimulating liniments, warm and stimulating poultices, and dry cupping, have helped to restore the menstrual flow, and this will partly explain the favorable results of marriage upon the menstrual function.

SURGICAL TREATMENT.—Any kind of surgical interference, the passing of the uterine sound, the application of mild or of strong caustics, will occasionally be followed by the menstrual flow. Hypogastric acupuncture is recommended by Hufeland; but it is more suitable for Chinese patients. A teaspoonful of liquid ammonia, in warm milk, may be injected into the vagina, once a day for a week. Turpentine has been used in a similar fashion, and aloetic vaginal injections might be tried. Dilatation of the neck of the womb, by means of a sponge-tent, or gentian-root, even when there

is no cervical stricture, will sometimes bring back menstruation. In rare cases, amenorrhœa depends on the occlusion of the womb; this may be the result of the improper use of caustic, as I have stated, p. 152, but it is more frequently caused by spontaneous inflammation, and the subsequent adhesion of some part of the cervical canal. Sometimes the occlusion is due to the sealing up of the os uteri by a membrane, which should be crucially incised, if the womb be not much distended by retained fluid, when it should be allowed to empty itself with no other assistance than that of the gentle pressure of an abdominal bandage. If the uterus be very much distended, the membrane should be punctured with a small trocar, so that the evacuation of its contents may be very gradual indeed; moderate doses of ergot of rye will be useful, but the injection of warm water into the womb has led, more than once, to a fatal result. If the walls of the cervix have become agglutinated, either before or after first menstruation, the solid cervix can be successfully tunnelled through, but this operation would only be attempted by a very experienced surgeon.

INTESTINAL STIMULANTS.—The close relationship of the reproductive organs and the lower portion of the intestine sufficiently explains why its spontaneous irritation and diarrhœa have been frequently known to precede the menstrual flow, and why strong purgatives have had the same effect. It has been noticed that purgation forms an important item in the monthly regimen recommended to bring back the courses. Aloes is the purgative to be depended on, and as it seems to have some specific action on the womb, besides its purgative power, I shall postpone further observations.

MERCURY.—I have known mercury to stop the menstrual flow when the liver was in a healthy condition, but congestion of the liver and more or less biliousness often coincide with amenorrhœa, and help to render it persistent. For such cases an occasional three-grain dose of calomel or blue pill will be found very beneficial; these remarks also apply to chlorosis and the change of life. Cases are on record of the menstrual flow becoming regular, after having been absent for years, very soon after the removal, by appropriate remedies, of large quantities of intestinal worms.

NERVE STIMULANTS.—The reader should bear in mind what has been written on sedatives; for, I have occasionally seen the administration of opiates, internally and externally, followed by the

return of menstruation, which had been absent for months, and I gave all the credit to the opium, as its exhibition was unaccompanied by any other active treatment. Unwelcome news, sudden emotion, the flurry of a party, or the dread of the menses appearing, will bring them on in some women. Electricity is more manageable, and the late Dr. Golding Bird found even static electricity very effectual, for if the patient's strength were sufficiently recruited, a few electrical shocks, passed from the sacrum to the pubes, have brought on menstruation. Sometimes only one shock would suffice, the remedy being applied when the flow was due. He was in the habit of using a jar of the capacity of three pints. Since his valuable observations, inductive electricity has been extensively applied to medical purposes, and it may be used in many ways as an emmenagogue. One pole of the instrument applied above the pubes, the other armed with an aura-brush, may irritate the skin of the thighs and of the pelvis. Others apply Faradization from the loins to the ovarian regions of the patient. Electrical foot-baths and hip-baths have also been advantageously employed, and the galvanization of the deep muscular tissues of the lower limbs; so I am surprised to find that galvanism has never once succeeded in Scanzoni's hands. Dr. M. Sims agrees with me, that the galvanic intra-uterine pessaries have no marked influence in promoting menstruation, and that if they occasionally do so, it depends upon the mechanical irritation of the cervix.

UTERINE STIMULANTS.—The medicines commonly called emmenagogues are, aloes, savine, cantharides, ergot of rye, rue, and madder. The list might be increased by many others still less deserving of credit, the doubt which clouds their appreciation being explained by the fact that menstruation is the most autocratic of human functions, coming on in the teeth of the greatest obstacles, and remaining absent in the midst of circumstances most favorable to health. Another reason for our imperfect knowledge of emmenagogues is, that no judicious practitioner would give any of these drugs, without associating it with other agents of emmenagogue medication, which alone often produce the desired effect. It must be noted, that two of the most reputed emmenagogues, cantharides and ergot of rye, stimulate the male as well as the female reproductive organs.

ALOES.—When one sees the large influence that fashion exercises over medicine, and that therapeutics have quicksands,

which undermine and bury facts that seemed firmly established, it is a comfort to meet with drugs that survive systems, and cannot be put aside by change-loving human nature. To me, it is some satisfaction to learn that Melampus of Argos cured one of the Argonauts of sterility, by giving her the rust of his spear; that camphor was used in India, as a nervine, before Alexander defeated Porus; that cold and the actual cautery were held in higher estimation by Hippocrates than by ourselves; and that, from time immemorial, it has been an Indian practice, to apply a solution of aloes to the os uteri, to bring on menstruation, which is reported to have often succeeded, and never to have done harm. Aloes has long been supposed, by the best practitioners, to be an emmenagogue, and has formed part of a host of popular nostrums; I consider it the best purgative that can be used, to solicit the return of menstruation, and believe that the aloes and myrrh-pills deserve their high reputation, which is confirmed by the well-established belief that aloes causes hæmorrhoids. Aloes has been given in enemata, by Schönbein and Aran to cure amenorrhœa; thus given, it purges less, and has a stronger local effect. Aran gave 75 grains of the extract, with 15 grains of Castile soap previously dissolved in three ounces of boiling water, as an enema every other day, for a fortnight, after which he omitted the remedy, on account of tenesmus becoming unbearable. This tenesmus is doubtless important, and tends to set up a corresponding action in the womb. Aran says that, by this remedy, he has been often able to cure long-standing amenorrhœa, in seven or eight days, and I have found it useful in a limited number of cases, but it is painful. Aloes should be tried in vaginal injections, suppositories, and sponge-tents, by those who hold hospital appointments.

PODOPHYLLIN.—I do not consider this drug to be a succedaneum of mercury more than any other purgative, but, as I have repeatedly observed that half-grain doses brought on uterine pains and premature menstruation, I recommend the association of podophyllin with aloes, in pills, when the object is to promote menstruation.

SAVINE.—Therapeutists have exaggerated the ill effects of this drug so much, that the belief has got abroad that it is only given with a sinister intent; this is to be regretted, for savine seems to me the most reliable of a very uncertain set of remedies. Dr. Copeman, of Norwich, has published three cases, in which five,

ten, and thirteen drops of the oil of savine were given in cases of amenorrhœa, which had resisted other measures; none of the patients suffered from the drug, and it evidently brought on menstruation in two. I have given twenty drops, twice a day, without poisonous effects; but, according to Dr. Loyer—Thèse, Paris, 1831—an overdose of savine has caused syncope, delirium, great agitation, and high fever. Like other emmenagogues, it may fail without causing these symptoms, in the same way that cases are on record in which large doses failed to cause abortion. Aran admits that savine acts on the womb like ergot of rye; and, as this has been often given for flooding, so has savine been successful in two cases of menorrhagia. It will be seen that I give the oil of savine in some suitable mixture, and I have also had it made into a plaster, to be worn over the ovarian regions. How far the external use of the drug contributed to the desired effect, I cannot say.

RUE.—This acts in the same way as savine, but is seldom prescribed. The infusion of pennyroyal is also a well-known popular remedy, which may partly deserve its reputation.

ERGOT OF RYE.—That power of contracting the gravid womb, which has so often been manifested for good or evil, during parturition, assures us that it exerts a similar influence over the unimpregnated uterus; and that, according as this contracting force is brought to bear on different conditions of the womb, it will stop menorrhagia, or cause the menses to flow. Moreau and Guersant have cured paralysis of the bladder by ten to twenty grains of ergot in the course of the day, and, in cases of paraplegia, it has been known to cause involuntary emissions of semen. From five to ten grains of the powder may be taken, two or three times a day, or the tincture may be administered; I never depend on its sole influence, but associate it with other drugs, as will be seen in the Formulary.

SAFFRON.—This drug was so much in vogue in the seventeenth century, that it enters largely into Sydenham's laudanum; indeed, some have erroneously ascribed to saffron, and not to opium, the return of the menses brought about by the use of enemata containing laudanum. Saffron has been too much praised as an emmenagogue; it is a warm, pungent aromatic, like castoreum, vanilla, mugwort, and madder, which have each found advocates as emmenagogues, and may, like other stimulants, excite circulation,

and thereby help the action of other measures, judiciously applied at the menstrual epoch; but I am not at all convinced that the menstrual flow would follow the exhibition of these substances, even in large doses, without other means. Saffron has been often combined with aloes—in the compound tincture of aloes, in the compound aloetic pills of the German pharmacopœia, in the popular remedy known as *hiera picra*, in the pills of Rufus, in the balsamic pills of Hoffman, which were formerly much in vogue, and in a very good emmenagogue, the elixir of Paracelsus. Saffron is given in an infusion and in pills; the tincture is a convenient form, and the syrup of saffron of the French codex, made with a vinous infusion of saffron, is not disagreeable.

CANTHARIDES.—I may have been too fearful of the action of cantharides on the bladder, but I have seldom given them. They have, however, been administered in amenorrhœa by Hippocrates and Galen; and Dr. Mackintosh says he cannot speak too highly of them, giving ten drops of the saturated tincture, three times a day, and gradually increasing the dose to thirty, forty, and even sixty drops. The evil effect of cantharides should be met by giving linseed-tea, camphor, and henbane.

SULPHURET OF CARBON.—This is considered by Bouchardat to be a strong emmenagogue. Milne-Edwards and Vavaseur assert that a few drops, sprinkled on the abdomen of a woman in labor, will reawaken uterine contraction, even when ergot of rye has been ineffectual, and that, by this means, hysterical patients are promptly brought to their senses. It is very volatile, and may be given in emulsion of almonds, but its offensive smell has prevented my giving it a trial.

I have no experience of strychnia and arsenic, which have been recommended.

CHAPTER VIII.

HÆMOSTATICS.

ALTHOUGH many women bear with impunity large losses of blood, it would be very wrong to let that impunity govern our practice, for others are sometimes permanently damaged by it, and they descend, as it were, to a lower level of strength. When flooding occurs at parturition, we can measure its amount, and are prepared to meet the emergency; but it has become a popular belief that, even if considerable blood-loss is not dangerous, when it occurs at a menstrual period, so we are left in ignorance of the extent of the monthly drain on a woman's strength. I think that the same notion is, to a less extent, entertained by medical practitioners, whereas, it seems to me, that the comparative immunity from the evil effects ascribed to menorrhagia has been rather dictated by theory than gleaned from personal observation; and, if the actual loss of blood is at first better borne, the ultimate results are equally disastrous, whether the blood flows at a menstrual or at any other time; therefore I use all the measures I can devise to check it, even on the first day of its appearance, if it tells too much on the patient's pulse and strength.

There are measures that often check blood-loss, and very much increase the action of hæmostatic drugs.

HÆMOSTATIC NURSING.—If a patient be losing large quantities of blood from the vagina, she should be laid flat on a hard mattress, with light covering, and in a cool room. The importance of posture is so great, that it is no exaggeration to affirm, that many lives have been lost from the friends not knowing, or forgetting, to place the head on a level with the body. It may be sometimes placed even lower with advantage, while the pelvis is so raised by

cushions as to be the highest part of the body. This alone has been sufficient to check metrorrhagia.

The impulse of blood to the womb can also be diminished by the application of strong ligatures to the four limbs, as near the trunk as possible, part of the blood being thus put by for future use; for I have seen many women die several hours after puerperal hæmorrhage had been stopped, too little blood having been left to stimulate the brain and nervous system, so as to enable them to permit the performance of respiration and circulation.

A firm, wiry pulse will show that bleeding may be permitted to proceed; a soft, broad, and very compressible pulse, or one that feels like a fluttering thread, implies, on the contrary, that no time should be lost in checking the hæmorrhage by additional means, such as the application of cloths, steeped in iced vinegar-and-water, to the vulva and the inner part of the thighs, drinking iced water, swallowing little lumps of ice, or even holding a large lump of it in the hands.

The accoucheur does not leave the house until the child has been applied to the nipple of the new mother, which shows how strongly the uterine vessels contract from mammary sympathy; and this may be, to a certain extent, imitated, under other circumstances, by applying embrocations and mustard-poultices to the breasts, and by dry cupping. Assuredly the remedies which are intended to check hæmorrhage, by the induction of reflex action on the part of the ganglionic nerves, should be more extensively used. Hot pediluvia and maniluvia, with or without the addition of mustard, will be sometimes sufficient to check menorrhagia. Mustard-poultices, stimulant embrocations, even urtication of the limbs, has been advised; and, like Becquerel, I have stopped severe menorrhagia by a large blister to the abdomen, so this might possibly be efficacious to check secondary hæmorrhage occurring after parturition, instead of blistering the sacrum, as recommended by Dr. McClintock.

While thus organizing a plan of treatment, the practitioner will bear in mind the many numerous conditions which may give rise to flooding, and ascertain, by a digital examination, when the flow is not menstrual, whether it be the result of cancer, of polypus, or of a fibrous tumor, or whether there be inflammatory softening or fungous ulceration of the womb. Should abdominal enlargement coincide with suppressed menstruation and other signs of preg-

nancy, uterine hydatids and placenta prævia will be thought of. If none of these conditions can be discovered, the case must be considered one of morbid impulse of blood to the uterine lining membrane, and this must also be conjectured in young and unmarried women, when an examination cannot be made. This morbid impulse may occur, both in those who can bear loss of blood and in the chlorotic, who can ill afford to lose any portion of it, and, having determined the cause of metrorrhagia, it will be necessary to choose appropriate measures amongst the medicinal and topical remedies which I shall briefly pass in review.

MEDICINAL HÆMOSTATICS.

BLEEDING.—The flow of blood from the womb should not be too soon arrested, if the persistence of the patient's strength shows that the bleeding is an effort of Nature to relieve the congestion of the pelvic blood-vessels, or to modify the crisis of the blood. Bleeding is fully justified by the same reasons, and may be well prescribed, when the continuance of flooding does not modify that hard jerking character of the pulse, which indicates the hæmorrhagic cachexia. The best practitioners of the last century found that, under these circumstances, moderate bleeding checked the flooding; and the same facts will be reproduced when a change in medical fashion shall again permit medical men in this country to open their eyes to the benefits to be derived from venesection. I do not advise bleeding to syncope, for it will be sufficient to take away from eight to ten ounces of blood, and I have seldom found it necessary to repeat venesection. Scanzoni has checked flooding by the application of leeches to the cervix uteri. I have no experience of the practice, and I think it difficult of application and less advantageous than other plans.

The hæmostatics to be now enumerated have also a cooling, depressing tendency.

COLD.—Ice is the first thing to try, ice in every form; it is not only effectual, but clean and grateful to the patient. Ice pills to be swallowed; ice water to be frequently taken in small quantities; vaginal and rectal injections of iced water; leaving an elongated lump of ice in the vagina; a bladder of it placed on the abdomen; or I have known flooding to cease on the patient's letting a lump of ice melt in her hand. The congelation of the neck of the womb, by the application of powdered ice and salt, may be

tried, when it is difficult to check the flooding of cancer. Thus employed, ice acts as a sedative; but, when hæmorrhage is suddenly checked, by sprinkling cold water on the abdomen or the vulva, the favorable result is due to the closing of the opened mouths of the blood-vessels by reflex action, to which the ganglionic nerves are now proved to be amenable. The action of ice is unanimously admitted. Cullen deemed it the most powerful of astringents; Récamier scarcely used any other remedy in menorrhagia. It has been stated that, when bleeding, ice to the hypogastric region, etc., have failed to stop flooding in nervous patients, the tepid bath has been successful. B. de Boismont also praises baths, the temperature of which is gradually lowered, but it is so very difficult to give baths safely under these circumstances, that I have never tried the plan.

HOT-WATER BAGS.—Dr. Chapman's views have been mentioned at page 57. I have tried his hot-water bags to the lower dorsal and upper lumbar vertebræ, with benefit in three cases of constitutional menorrhagia, and, in one case, flooding stopped within an hour of the application of the remedy. The patients should be told not to apply the bags to the sacrum, for I have known this to increase the flooding. Dr. Routh has tried this plan of treatment both at the Samaritan Hospital for Diseases of Women and in private practice, and he thinks highly of it; but Dr. Rogers is doubtful as to its utility.

MINERAL ACIDS.—These are valuable agents, when given largely diluted in mixtures; or lemonade, according to the formulæ given at the end of this work. Sulphuric acid may be also combined with alum or with gallic or tannic acid, but I prefer to give these in pills.

TARTAR EMETIC.—It would be wrong to give tartar emetic when the strength of the patient has been greatly reduced; but, in the first or second stages of flooding, I have sometimes stopped it gradually, by nauseating doses; at others, suddenly, by giving enough to bring on vomiting.

DIGITALIS.—This has been so much praised in various active hæmorrhages, that it is not surprising that Mr. Dickinson and Mr. May have found it useful in menorrhagia. Mr. Dickinson's attention was called to the remedy, by its having been given for the relief of a cardiac affection, in a patient who was also subject to menorrhagia, and in whom it entirely arrested the discharge.

This led to its further use; and in every case of uterine hæmorrhage, unconnected with organic disease requiring the employment of active remedies, that was subsequently admitted into St. George's Hospital, foxglove was had recourse to, as the sole treatment, and it invariably arrested the discharge. The time that elapsed, before the hæmorrhage subsided, varied with the dose in which the remedy was exhibited. When large doses were given, as an ounce, to an ounce and a half of the infusion, the discharge never appeared after the second day; when smaller doses were used, it never continued beyond the fourth, and one or two drachms of the tincture have been given in the course of the day. In uterine hæmorrhage connected with organic diseases, the remedy acted with less certainty; its exhibition was required for a longer time, and the effect was transient. I can confirm this statement, for I have also found digitalis very useful, in cases of idiopathic menorrhagia, accompanied by so much fever that it might be described as catamenial. The pulse ranged from 100 to 130 during the menstrual period; and this frequency of pulse was accompanied by thirst, pelvic pains, and flooding. In such cases, I prescribed two drachms of tincture of digitalis, with thirty minims of prussic acid, and one grain of acetate of morphia, in a six-ounce mixture; recommending a dessert-spoonful to be taken every second or third hour; henbane and belladonna suppositories were applied at night, and quinine was given during the intermenstrual periods.

VERATRIA.—To check menorrhagia, I have seen Aran give veratria, half a grain, divided into four pills, to be taken in twenty-four hours; its action is similar to that of digitalis, but I never prescribe it internally, for it is a very powerful remedy.

ACETATE OF LEAD.—This can be given associated with opium, ipecacuanha, and digitalis, but, however valuable as an external agent, acetate of lead given internally is less reliable: in this respect my experience coincides with that of Dr. Robertson and Dr. McClintock; it should be given with an excess of acetic acid to prevent lead-poisoning. Nitrate of potash has likewise been recommended, in large doses, such as half or a whole ounce, but I have only given it, in small doses, as a diuretic and preventive of hæmorrhage.

MINERAL ASTRINGENTS.—Alum, in a solution of sulphuric acid, is the first remedy to try, and it often suffices. My friend Sir R. Martin frequently advises the Sand Rock Spring chalybeate, to

those who suffer from hæmorrhage and leucorrhœa, on returning from India : this mineral water contains the sulphate of iron and alumina, and, in place of it, from two to six grains of the ammoniated iron-alum may be given, in some bitter infusion, twice a day. Although, as a rule, I deprecate the giving of steel when there is a tendency to flooding, still there are cases of cachectic hæmorrhage, in chlorotic women, which require steel, to relieve exhaustion, and to keep the heart up to its work ; for this, the sesquichloride of iron in sulphuric acid, largely diluted, is a good preparation.

VEGETABLE ASTRINGENTS.—Red roses, whortleberry, oak-bark, oak-galls, kino, catechu, rhatany, logwood, tormentilla, matico,—all owe their value to the tannin and gallic acid they contain, differently associated and flavored, so that one may be frequently substituted for the other. With regard to the constitutional effects of these astringents, it is admitted that gallic acid so acts on the ganglionic nerves as to contract the involuntary muscles existing in the middle coat of the arteries, and the walls of the capillaries, thereby diminishing their calibre, and checking hæmorrhage, just as they restrain mucous secretions by constricting the capillaries. Some assert that tannic acid has a similar general action, and that it passes out, into the secretions, as gallic acid. At all events, gallic acid is the strongest vegetable astringent that is ever administered internally, although it will often be ineffectual, more particularly when the loss of blood depends upon organic lesions. I give it in two or three grain pills, one to be taken two or three times a day. Tannin is more useful as a local application, made up into vaginal suppositories, and I sometimes add one or two drachms of it to a pint of water, as an injection.

ERGOT OF RYE.—This agent influences the capillaries of the whole body, since it has been found useful in hæmorrhage from many organs. Its specific action on the womb seems well established ; although there is no reason why it should not be associated with opium and other measures. Récamier gave two grains every three hours ; I give scruple doses three times a day ; this remedy has been highly praised by Dr. Graily Hewitt, who gives thirty grains three times a day. Bayle has published —*Bibliothèque Thérapeutique*, vol. iii.—70 cases of post-partum menorrhagia. He gave a scruple four times a day, and cured 67 out of 70 cases. It can be associated advantageously with opium and Indian hemp.

SEDATIVES.—The value of full doses of opium to check flooding is well recognized by the profession, one, two, or three grains of the extract being given at intervals of one, two, or three hours, according to the case, until the pain be lulled. Opium, by quelling the irritability of the whole system, and by giving sleep or quiet, prevents the undue determination of blood. Opium is a valuable agent in all bleeding from the reproductive organs, for, when diseased, a slight operation, even a few leeches applied to the womb or to the labia, may set up a determination of blood to the womb. This is described by patients as a forcing action, or as a rush of blood, distinctly felt, and which may be ultimately injurious if unchecked. In such cases, opium should be given in suppositories and enemata, which will check diarrhœa, if it aggravates menorrhagia. Indian hemp may be very advantageously combined with others, just passed in review, the more so as some practitioners ascribe to it a decided hæmostatic influence, even when it is given alone.

TURPENTINE.—If a drop of spirits of turpentine be applied to a cut finger, the bleeding stops, and nothing checks hæmatemesis so speedily as a little water on which float ten to fifteen drops of turpentine. I have used turpentine, as a topical application, to check bleeding from various ulcerations of the cervix. J. Hunter thought highly of it taken internally in cases of active hæmorrhage. Dr. Copland commends the practice; and it will be found that resinous substances enter largely into the composition of many of the medicines which have been praised as hæmostatics. A liquid sold as "Ruspini's Styptic," which contains substances analogous to turpentine, is one of the best agents to stop the bleeding from broken-down cancerous tissues. The compound tincture of benzoin is also useful. Turpentine, cubebs, and copaiba, have been prescribed internally in menorrhagia, and the fact of their having been accused of causing amenorrhœa is in favor of their efficacy as hæmostatics. Judging from the effects I have observed, turpentine is a reliable remedy, to the value of which Dr. Wilks has borne testimony, and the purer and less offensive kind, now sold as fir-wood oil, will facilitate its exhibition. Dr. Fordyce Barker reports favorably of turpentine in the treatment of abortion, and states, that where given as an enema, it not only acts as an effective oxytocic, but also by its hæmostatic properties.

CINNAMON.—Pereira drew attention to its use, in uterine affec-

tions, on the faith of German authors; Drs. Tanner, Aran, and Gosselin, admit its utility in menorrhagia, and give from half an ounce to an ounce of the tincture, with five ounces of water. This testimony is sufficient to suggest the combination of this agreeable aromatic with other medicines: but it would be wrong to rely entirely upon it.

MERCURY.—The solidarity that exists between the uterus and the liver—which will be fully explained in the chapter on the complications of uterine diseases—explains why small doses of bichloride of mercury have been known to check menorrhagia that had resisted the usual remedies; the effect is not to be ascribed to salivation, which has been advised for other hæmorrhages.

SURGICAL HÆMOSTATICS.

VAGINAL INJECTIONS.—These are not to be depended upon, but sometimes the cold and very gradual injection of a strong solution of alum and zinc, for fifteen minutes, will greatly help to check flooding; this must be done, however, by an intelligent nurse. A lump of ice pushed high up into the vagina, and more or less frequently repeated, is very useful; and the application of cold to the lower part of the abdomen, by means of Dr. Richardson's ether spray, has been known to stop flooding.

PLUGGING OF THE VAGINA.—This invaluable remedy has saved the life of many. It may be done in the usual way, by introducing a silk handkerchief into the vagina, and gradually filling it with balls of tow, retaining the whole mass by a well-applied bandage. Dr. Bennet has proposed the introduction of the speculum, and then plugging the vagina in the usual way; but as the instrument may have to be left in the vagina from ten to twenty hours, the handles of the instrument will distress the patient.

PLUGGING THE CERVIX.—This is an excellent idea of Dr. Bennet's, but is a great deal too simple for general adoption. The os uteri being well brought in view, by means of the speculum, small pledgets of cotton wool are successively introduced into the neck of the womb, so as to fill it as much as possible. As the muscular tissue of the neck of the womb soon yields, and as it may be necessary to plug it again, I leave the speculum and plug in the vagina. At the end of seven or eight hours I remove the wadding from between the valves of the speculum, and again plug the os uteri with cotton wool, after which I withdraw the speculum and plug the

vagina, but not so as to distend it painfully, and then I apply the bandage. This has been objected to, for fear it should favor the passing of blood through the oviducts into the peritoneum; but those who make the objection do not say they have tried the plan and brought on the dreaded result, whereas Dr. Bennet and I have never known it to do so. In the very rare cases in which blood has regurgitated through the Fallopian tubes into the peritoneum, there had been long-continued pressure of an over-distended womb, or diseased tissues to account for the fact. The uterine orifices of the Fallopian tubes are surrounded by circular muscles that effectually antagonize uterine contraction, so that the wadding is expelled long before the blood can be forced through the oviducts.

UTERINE INJECTION.—Perchloride of iron was, at first, only used externally as a powerful hæmostatic, applied by means of a pledget of cotton wool, or mixed with collodion in the proportion of one of the perchloride of iron to six of the latter. This forms a treacly-looking substance, to be applied with a stiff brush to the bleeding surface of the womb, and is a very powerful application. We have now become bolder, and are not afraid of injecting a solution of perchloride of iron into the womb, in cases of internal metritis, and my friend Dr. Barnes lately observed that with that help he no longer fears the flooding of abortion or labor. Care should be taken to use the neutral perchloride, for if the acid be in excess, it greatly irritates the vagina. The addition of carbonate of soda, in the proportion of six grains of the latter to an ounce of the former, is said to obviate this inconvenience, without antagonizing the hæmostatic properties of the drug. One of the perchloride of iron to two of distilled water is good for extra-uterine use, and I generally dilute one of the perchloride with four of distilled water when the solution is to be injected into the womb. It is my firm conviction that we shall save many valuable lives when we become bolder in attacking the diseased conditions of the uterine cavity which often cause a flooding that cannot be checked by medicines. I allude to the fungoid granulations that I used formerly to remove by means of the curette, but which I now get rid of by the internal application of the perchloride of iron. This may be applied by passing a probang several times into the womb, the sponge having been previously soaked in the solution of perchloride, but, unless the cervix be very much dilated, it will squeeze the fluid out of the sponge, which will then have little to give to the seat of disease.

It is better to inject the fluid by means of my double-current injection tube, and I will observe that, in the cases requiring this mode of treatment, the cervix is generally widely dilated, so that there is no danger of too much of the fluid remaining in the womb. I withdraw the instrument after two or three minutes; sometimes the pain is very great, at others, much prostration and nausea are experienced. Dr. West found that intra-uterine injections of a solution of gallic acid, or an infusion of matico, stopped flooding, after all other means had failed, in a woman of fifty-one.

INCISION OF THE CERVIX.—It has occurred to Dr. McClintock and M. Nélaton that a free incision of the os uteri might check the abundant hæmorrhage, which so frequently attends uterine fibrous tumors, and the operation has had the desired results in my hands as well as in theirs. It seems that the division of the neck of the womb permits the fibres of the body of the uterus to contract firmly on the contained tumor, so as to compress the vessels and prevent loss of blood; and I have successfully adopted this plan in several cases. Another plan, advocated by Dr. Savage, when fibroids lead to dangerous flooding, is freely to dilate the cervix, and then to inject a solution of tincture of iodine, which, for a time, checks the flooding; this process is to be repeated on its recurrence. Though this plan sometimes led to the diminution or disappearance of the tumors, it was preceded by great abdominal tenderness, which has occurred also, in a few instances, when ovarian tumors have disappeared under the influence of iodine. Gouging and enucleating large fibrous tumors are dangerous proceedings, given up, I believe, by Dr. Atlee, of Philadelphia, who first proposed the plan. Making several extensive incisions in the tumor is less dangerous than enucleation, and is said to lead to the disintegration of its substance, and to offer a fair prospect of its ultimate disappearance. In conclusion, I may add that common sense teaches the folly of treating flooding by the exhibition of astringents, if it can be immediately cured by twisting off a small polypus, or by the removal of a larger one, or by scraping away fungoid growths which spread on the mucous membrane in the ulcerative variety of internal metritis, so as to check dangerous flooding by inflaming the bleeding surface. In like manner, the bleeding attending sub-mucous fibroids has been checked by using the uterine sound, and roughly manipulating the tumors; in making this assertion I am borne out by Dr. McClintock.

PREVENTION OF UTERINE HÆMORRHAGE.—Uterine hæmorrhage, like all others, leads to two indications—1stly, to restore the health, dilapidated by loss of blood, and for this I refer to the chapter on Tonic treatment; 2dly, to prevent a return of the flooding. This may depend on a cachectic state of the system, as in chlorosis, when a combination of steel with astringents becomes an obvious indication. It may be caused by a peculiar hæmorrhagic tendency of the vessels, alike independent of chlorosis and of plethora. Such cases often resist all treatment; but I have found opium, in large doses, to be most effectual. The flooding may depend upon plethora, as is frequently the case at the change of life. I then follow the example of Fothergill, Hufeland, and Lisfranc, and prevent the floodings of cessation, by taking very small quantities of blood from the arm, on the non-appearance of the menstrual flow. Three or four ounces of blood taken in this way, at increasingly prolonged intervals, often prevents mischief; and it must be borne in mind that at the dodging-time, or after cessation, no ganglionic centrifugal currents should be encouraged by pediluvia, hip-baths, mustard-poultices, and similar applications to the lower extremities. Hæmorrhage, however, as often depends upon the perturbed action of the blood-vessels as upon plethora; and although other measures may be indispensable, the return of many hæmorrhages can only be prevented by a judicious use of sedatives. A sedative mixture, a full dose of Battley's solution, or of a solution of acetate of morphia, taken at night, will therefore be found useful; and as, when the blood is directed with a strong impetus to the womb, it is a centre of morbid attraction, it requires to be lulled that it may no longer disturb the tenor of the circulation. This may be done by giving sedative injections or suppositories by the rectum until the nervous irritability of the reproductive apparatus is quelled. Saline purgatives, and small doses of nitre, are also indicated, and the regimen must be carefully regulated. It is best to advise bland and farinaceous food, fish two or three times a week, a diminution in the usual quantity of beer and wine, an occasional warm bath, moderate exercise, and the avoidance of hot rooms.

CHAPTER IX.

SPECIFICS.

To admit stimulants and sedatives is to admit *physiological* specifics, or that power has been allotted to certain substances to act specially, some on the nerves, some on the blood, and others on the muscular fibre; which remedies only exert their operation on the womb, because it is made of muscular fibre, blood-vessels, and nerves. If, as is usual, we understand by specifics medicines able to cure certain diseases by a power that cannot be explained by any physiological principle, the number of specifics will be found singularly limited when compared to that of diseases; for who can tell why mercury, rather than iodine, should cure syphilis; and why scrofula should find a specific in iodine? There are very few specific remedies, and the emmenagogues, of which I have lately treated, have an equally strong action on many other organs, and on the whole frame. It is easy to form a fanciful theory of medical etiology, and to admit that each specific diathesis has a marked and peculiar influence on uterine disease, but these assumptions break down in practice; for instance, I do not believe that the late Dr. Rigby was justified, by our present knowledge, in affirming "that inflammation of the cervix as truly shows a constitutional diathesis as the gouty toe, the rheumatic knee-joint, or the enlarged strumous gland," to quote his own words. With a very strong bias toward vitalism, I have earnestly sought to discover what amount of truth was contained in this paradox. Dr. Rigby may have been correct in attributing certain cases of dysmenorrhœa to a rheumatic or a gouty constitution; but, although he so firmly believed in the constitutional origin of inflammatory affections of the cervix, he has not enlightened us respecting the precise nature of this constitutional taint, and his practice leads one to infer that

it was nothing more than that general debility which is the origin of most diseases wherever situated—a debility not requiring, like gout, to be treated by specific remedies, but by a combination of restorative and tonic measures, already discussed at a considerable length. Careful investigation of the causes of uterine disease convinces me that constitutional debility—as evidenced by a life of continued ill health, a great tendency to affections of the mucous membranes, a highly nervous temperament, and particularly an innate defective putting together of the reproductive organs, shown by menstruation having been, all through life, more or less morbid—is the chief cause of uterine inflammatory affections; and that uterine inflammation very seldom stands in the same relation to some specific poison as a swelled toe does to gout. General debility being a frequent cause of uterine disease, the utility of tonic medications is obvious, and I have already stated that they cure slight inflammatory uterine lesions, which would have also yielded to nature. When, however, inflammation has taken a firm hold of the uterine system, and has given rise to ulceration, steel and quinine, taken in whatever quantities, will have no effect on the disease unless assisted by surgical treatment. Little as tonics can be trusted in such cases to effect a cure, they are clearly indicated in their treatment, and sometimes are the only means of supporting the patient's strength. Thus, in the more doubtful forms of specific action, the herpetic, rheumatic, and false membranous affections of the womb, what more can be done than to renovate the system by the best plan of restorative treatment that can be devised for each case? In the scrofulous diathesis we can only add iodine to tonics; in syphilis, mercury alone, or combined with iodine. The constitutional treatment of cancer is reduced to a most lamentable simplicity, and while quacks trumpet forth their nostrums to the eager belief of suffering humanity, the conscientious physician knows that, as far as medicines are concerned, he can only advise tonics. Writers have recognized cancerous, syphilitic, scrofulous, rheumatic, herpetic, and pseudo-membranous forms of uterine inflammation. The first three are of practical importance, and deserve separate consideration; but the others may be dismissed with a passing comment.

RHEUMATISM.—Dysmenorrhœa and uterine inflammation have been met with in rheumatic women, and these diseases are often associated with many others without being related to them; as

cause to effect. Dysmenorrhœa and uterine disease are, doubtless, often caused by rheumatic influences, by cold and damp; but they impart no tangible character to the inflammatory lesions, and suggest no peculiar remedy, and, if all complaints are to be called rheumatic that are caused or aggravated by cold and damp, rheumatism will include half of internal pathology. Admitting that colchicum and guaiacum have done good in dysmenorrhœa, have not they also been of service in other complaints, which cannot be styled rheumatic or gouty? I thought it was admitted that women very seldom had gout until the cessation of menstruation, and I can affirm that there was nothing amiss in the uterine functions of the few cases of erratic gout that I have met with in young women.

DERMATIC TAINTS.—Some writers have noticed the occasional occurrence of the same form of eruption on the womb as on the skin of a patient, and have admitted herpetic disease of the womb; others have gone so far as to ascribe an herpetic character to cervical inflammation, from its being advantageously modified by arsenic, as if arsenic were not a potent vaso-motor tonic, curative of many diseases. My friend Dr. Bernutz has observed a kind of psoriasis on the neck of the womb in a woman who had evident psoriasis of the skin. I do not remember ever noticing on the womb any eruption similar to what the patient bore on the cuticle; but I have occasionally observed that women who had often suffered from cutaneous affections had a corresponding frequently-recurring tendency to inflammation of the womb. This evidently shows that there was some constitutional taint at the root of both complaints; but it gives no clew to their nature, and only an uncertain one to their remedy. As sulphur is good in both cutaneous and mucous affections, it may be judiciously given, but more reliance should be placed on the several modifications of tonic treatment.

LIABILITY TO DISEASE OF THE MUCOUS MEMBRANE.—As the mucous membranes of each patient are, as it were, cut out of the same cloth, it is not surprising that, in the worst cases of chronic inflammation of the uterine mucous membrane, there should be a similar unhealthy tendency in the throat, the nose, the stomach, and the colon; I have frequently noticed this, and Dr. Bernutz has noted an ulcero-membranous state of the velum palati and the gums to coincide with a similar condition round the os uteri. The concurrence of similar lesions in similar tissues denotes one of those

morbid conditions of the whole system which we call cachectic: no one has discovered the nature of that morbid condition, nor its special remedy, and we can only refer it to some hidden cause of debility, to be treated by tonics.

SYPHILITIC INFLAMMATION OF THE WOMB.—The ravages of syphilis do not require to be exaggerated. It has been asserted that there is a great deal of syphilis in the common run of uterine inflammatory affections; and the late Dr. Mackenzie sought to prove this assertion by elaborate statistical accounts of every morbid symptom and lesion to be found in women suffering from syphilis, which is made to bear the blame of all that is found amiss. All that is true in this position is, that syphilis is, of itself, a frequent cause of uterine inflammatory affections, an observation proved by those who, during the last thirty years, have attended the clinical wards of Ricord and Cullerier. Most syphilitic patients lead a life in which misery and debauchery alternate, and, besides its special poisoning influence, syphilis induces a cachectic state of the tissues, tending to inflammation and ulceration, in which there is nothing specific. Mercury and the exigencies of a prolonged treatment are powerful debilitating agencies; and thus, one can easily understand that syphilitic women, more frequently than others, suffer from uterine catarrh, and from ulceration of the os uteri, which are no more syphilitic than the soreness of the nostrils caused by coryza. In other words, some syphilitic affections of the womb have distinctive characters, and should not be confounded with the non-specific lesions, with which they are frequently associated; but there are instances where the lesions have nothing specific in their appearance, yet the woman is shown to be infected by the recurrence of abortion, and by the birth of syphilitic children. In treating this subject, in *The British Association Journal*, Mr. Langston Parker says, "that the symptoms of secondary syphilis, as they affect the uterus, consist chiefly in discharges from the os, enlargement of the neck, with redness and superficial ulceration affecting the neck externally, as well as the orifice and canal of the cervix. These symptoms are rarely met with singly; they are frequently all present; but two or more generally coexist. It may be asked, Are these pathognomonic of the existence of syphilis in the system? Would it be safe to assert that such symptoms are syphilitic, apart from the existence of other and the more well-known manifestations of the disease? It may be answered that

such conditions of the uterus are unfrequent, apart from either the present or antecedent symptoms of syphilis." I am not prepared to admit this scarcity of uterine lesions apart from syphilis. Dr. West has established their frequency, and, when Mr. Langston Parker compares the rarity of uterine lesions, as based on post-mortem examinations at St. George's Hospital and the Marylebone Infirmary, with his own experience of women supposed to be syphilitic, he must bear in mind that most of the lesions that he observed in the *living* would have disappeared in the *dead*. Dr. Whitehead, whose opinion on this point deserves great consideration, states that, "when the lower section of the uterus, in a state of hypertrophy, presents a dark-red surface, somewhat variegated or mottled, or measly, and especially if it appear tense and glistening, it may pretty confidently be asserted that the patient has a syphilitic taint," but I own, that I should require this state of things to be coupled with some syphilitic antecedents, successive abortions, or concurrent evidence of syphilitic taint in the patient's throat or on her skin, before submitting her to mercurial treatment. On the other hand, I have known women bear syphilitic children, and in fact many, who did not present the appearances described by Dr. Whitehead, and in whom I could only find an abundant muco-purulent discharge, coming from a red, granular, cervical mucous membrane, this mucous membrane, and that lining the body of the womb, being evidently poisoned by syphilis, but only showing the poison by its effects. My disbelief in the syphilitic nature of a considerable amount of uterine inflammatory lesions of the neck of the womb in syphilitic patients, is based on the records of observations made in a large city dispensary, on the range of extensive practice in the upper and middle classes of society, and confirmed by the statements of Ricord and of the elder syphilographers. My conviction is strengthened by the fact of its being entertained by men like Drs. Bernutz and Goupil, who have lately studied the whole subject in the hospital especially set apart, in Paris, for the treatment of women who suffer from syphilitic diseases, and are not prostitutes. These observers have stated to me their belief that syphilitic diseases of the neck of the womb are rarely met with in ordinary practice, and, that of all these diseases, the true Hunterian chancre, although rare, is the form most frequently found; and as, in nineteen cases out of twenty, chancre on the neck of the womb is accompanied by chancre on the external

morbid conditions of the whole system which we call *cachexia*, one has discovered the nature of that morbid condition, and we can only refer it to some hidden debility, to be treated by tonics.

SYPHILITIC INFLAMMATION OF THE WOMB.—

syphilis do not require to be exaggerated. It is that there is a great deal of syphilis in the common inflammatory affections; and the late Dr. N. M. ... is to prove this assertion by elaborate statistical ... most morbid symptom and lesion to be found in womb ... question is syphilis, which is made to bear the blame of ... of uterine inflammation. All that is true in this position is, that the frequent cause of uterine inflammatory ... cases would lead to a calamity if, when proved by those who, during the last ... calamity if, when the clinical wards of Ricord and Cul ... a fact that it was good to lead a life in which misery and de ... the stomach, we should admit the urgency of its special poisoning influence, sy ... to admit the urgency of the tissues, tending to inflamm ... ory affections of the womb, is nothing specific. Mercury ... marked ulceration of the neck of treatment are powerful de ... by surgical treatment, and is but easily understand that s ... rational remedies; whereas, on the con- others, suffer from uterin ... influence, syphilitic sores often heal without uteri, which are no mor ... treatment is called for, not only by caused by coryza. In ... of womb, which is of rare occurrence, but womb have distinct ... symptoms, and no doubt many women have with the non-specific ... that secondary symptoms are not transmis- ciated; but there ... a man imperfectly cured of syphilis, many specific in their ... as to present syphilitic eruptions, loss of hair, by the recurrence of ... progeny. When chancre, mucous tuber- dren. In trer ... on the neck of the womb, lead to the belief in Mr. Langste ... should be carefully examined, and the cir- culations of the case explained to him, in order that he may place os, enlarg ... treatment; but it will be obvious to every medical affectin ... cervix ... unless he wishes to be kicked out of the house, he had freq ... tell the lady that her liver is gorged with bile, and be ... will not recover without a course of mercury. Of the th ... several good preparations of mercury, the proto-iodide seems to agree best with the stomach, one grain made into a pill, with one grain of extract of henbane, to be taken morning and night. It is necessary that the gums should be decidedly touched, avoiding, as

I have not the slightest doubt that some of those distressing cases in which women repeatedly abort, depend on syphilitic contamination of the lining membrane of the womb, and that this pathological condition often lasts for years, though it might be cut short by setting up another kind of action in the uterine mucous membrane, by means of intra-uterine injections. A solution of nitrate of silver is the best agent for the purpose, in the proportion of ten grains to the ounce, or stronger, if necessary; and serious accidents need not be anticipated if the fluid be injected gently, and if the operator use a double current intra-uterine injector. This local treatment should be combined with the administration of mercury or iodide of potassium.

TREATMENT OF CANCER.—When convinced that a patient is affected with cancer of the womb, it would be dishonorable not to inform her friends of it, and still worse to hold out hopes of ultimate recovery, though the result of such conduct will be, that the patient will soon seek other advice; for, it is in human nature to trust to the faintest hope held out, and to submit to any torture, rather than admit the incurability of disease.

Medicine has discovered no remedy so efficacious for cancer, as mercury for syphilis, or as iodine for scrofula. When cancer was confounded with, and was thought to originate in, chronic inflammation of the womb, one might have been justified in admitting the specific influence of leeches, extract of hemlock, and of similar sedatives; but this is no longer possible, now that we know how very seldom this occurs, for, in the course of twenty-five years' practice, I have only once witnessed the passage of the womb from inflammation to cancer. This was in the case of a lady, aged forty-four, who was suffering from soft hypertrophy of the womb, with extensive ulceration, dipping into the cervix, and most likely implicating the lining membrane of the body of the womb, for menorrhagia was frequent and abundant. The case exactly resembled others that I have been able to cure, and Dr. H. Bennet likewise thought it purely inflammatory. I attended the patient at regular intervals, for a year, and then lost sight of her, till summoned five years afterward, when I found her dying of a large encephaloid cancer of the womb; a diagnosis concurred in by Dr. Barrett. The fact of the patient having had such extensive uterine mischief for so many years, when we know that cancer kills in three years, confirms my belief that there was no cancer when I first attended

her. The neglect of all treatment, overwhelming misery, and mental anxiety, that may be imagined, when I mention that a husband, believed to be dead, suddenly returned, and found his wife married to another, may, to a certain extent, explain the passage from inflammation to cancer. At all events, it is clear that the curing of uterine disease is the best preventive of cancer, which is rare among the unmarried who menstruate regularly.

Having no specific for cancer, all we can do is to keep up the patient's strength by the most judicious combination of restorative and tonic measures. If steel agrees, let it be given in as large doses as the patient can bear, with the precaution of frequently changing one form for another, or of combining it with cod-liver oil. A fair trial might also be given to Donovan's solution of iodide of arsenic and mercury, each drachm containing one-eighth of a grain of protoxide of arsenic, and one-fourth of a grain of protoxide of mercury. Half a drachm may be given twice a day in a china spoon. I have tried this remedy at the recommendation of Carmichael, and, although it has done no good in uterine cancer, its exhibition was followed by marked improvement in cases of lupus. In the treatment of cancer of the uterus, both canceroid and carcinoma, Dr. Atlee has also great faith in the long-continued use of arsenic internally, in small doses long continued, combined with the local use of a very strong solution of iodine in glycerine. A drachm of iodine and a drachm of iodide of potassium are dissolved in two drachms of glycerine, and this is applied by a brush or cotton, two or three times a week, all over the cervix uteri, and to any part of the growth which can be seen. Mr. Spencer Wells relates having seen a case of undoubted carcinoma, where the patient and her husband, a medical man, fully confirmed all that Dr. Atlee said of the remarkable improvement which had followed this treatment in her case. Iodoform has been recommended by Dr. Eastlake, as a sedative in cancer; he gives it in two or three grain doses, made into a pill, with breadcrumbs; and it is said to diminish pain, when applied locally to the cervix uteri, in an advanced case of disorganization. Dr. Greenhalgh considers it has the advantage of never producing that restlessness so frequently attendant upon the use of opium, and he regards the drug as a valuable addition to our present stock of medicaments. Much may be done to keep up the patient's strength, and alleviate her sufferings, by astringents, hæmostatics, sedatives, or by ice, which

last, however used, is only a palliative. I have known congelation of the neck of the womb to be continued, twice a week, for a year, without checking the usual growth of the disease. In this case it prevented hæmorrhage, and its application was painless, but I have been obliged to give up the remedy in others, owing to the pain it determined.

LOTIONS.—Prolonged irrigation with cold water is not open to this objection; and, if it be so arranged as not uncomfortably to wet the patient, it is very soothing, and takes away the offensiveness of the discharge, to prevent which, however, it is often necessary to have recourse to the solution of chlorinated lime, one ounce being added to each pint of fluid to be injected; but I prefer Condyl's fluid, in the proportion of one teaspoonful to a pint of liquid. To this it is necessary to add a drachm of laudanum, and sometimes a tablespoonful of glycerine, without which these agents frequently cause irritation. A very weak solution of carbolic acid or of the liquor carbonis detergens, is a good disinfectant. A teaspoonful of laudanum and glycerine may be added to any other cooling injection, such as linseed-tea, a solution of borax, chlorate of potash, acetate of lead, alum, and tannin. I have not noticed that the injection of carbonic acid into the vagina was followed by results sufficiently good to compensate for the trouble it entails. Another appropriate lotion will be found in the Formulary. All these remedies have been found useful in promoting the healing of the ulcerated surface, and in restraining the abundance of the discharge, which is both weakening and disagreeable, if not offensive.

All hæmostatics are more or less available, and may require frequent application. The bleeding surface may be painted with a strong solution of alum and zinc, or with tannin or nitrate of silver, each dissolved in its weight of water, or with a solution containing one of the perchloride of iron to one or two of distilled water, or by the application of the solid perchloride itself. Ruspini's styptic, in which a pledget of cotton wool is to be soaked and well fixed to the ulcerated surface by means of the speculum, is a good preparation, recommended by the late Sir B. Brodie, and its action is analogous to that of concentrated carbolic acid, which has been also praised; I have likewise applied with benefit the acid nitrate of mercury, or pure nitric acid, to ulcerated cancer. Who would treat cases of cancer without the aid of sedatives? Sedatives given as suppositories, injections, poultices, all find application; it

is better to give chloroform to anæsthesia, than allow a patient to be driven to madness by an indescribable irritating pruritus of the vagina, or by unbearable pain, and, better still, to make hypodermic injections of morphia. Scanzoni has, in several instances, stopped entirely, for a few months, the flooding of cancer of the womb by the actual cautery, which, by destroying the large superficial vessels, and, by setting up inflammation, induces the exudation of products which coat the blood-vessels, and so prevent the escape of blood. It is seldom we are called upon to detect cancer of the womb before it is too extensive to be entirely removed, and the fact of there being no ulceration, and of the womb being perfectly movable, may prevent practitioners agreeing in the earlier stages of the disease whether it be cancer or not. But, should cancer be so limited to the os uteri as to admit of its safe removal, it may be done by the knife, the *écraseur*, or by strong caustic. The removal of the diseased portion of the cervix, by an incision made in its healthy tissues, is a justifiable operation in cauliflower excrescences and in other rare cases; it is sanctioned by Scanzoni, although he gives no details, and by Sir J. Simpson. I do not remember having seen a case in which cancerous ulceration was evidently limited to the surface of the neck of the womb. If I did, I should certainly attack it with the actual cautery, which would rapidly cure the ulcer, should it not be cancerous. If necessary to cauterize the diseased tissues *very deeply*, I should be sorry to use the actual cautery, as it has been condemned by those who have had the courage to try it under these circumstances. This applies also to the use of chloride of zinc and other strong caustics, for it is very difficult to limit them to the diseased tissues on account of the abundant secretions.

Extirpation of the entire womb, even if no other organ be affected by the cancerous diathesis, is too dangerous a remedy to be recommended, for only two survived out of nineteen patients who were operated on, Récamier's patient living twelve years after the operation. The fragility of the uterine tissues, the danger of breaking down the conterminous peritoneal adhesions, which render peritonitis, cellulitis, and hæmorrhage almost inevitable, are sufficient to deter the surgeon from the performance of this operation, which can only be done with hope of favorable result in cases of extreme proclivitas, when the womb has long lost its right of citizenship in the pelvis.

SCROFULOUS ULCERATION.—It frequently occurs that the only evidence of a cancerous diathesis is a cancerous ulceration of the neck of the womb; the same remark applies to syphilis; whereas, on the contrary, the fact of ulceration of the womb being scrofulous is not clearly written on the neck of the womb, and is only to be inferred from the appearance of the patient, and from her having been scrofulous at previous periods of her life. In other words, I have frequently seen ulceration of the neck of the womb in scrofulous subjects, but I do not remember to have ever seen a scrofulous ulcer of the cervix, an ulcer in which broken-down tubercular matter could be detected. I have occasionally met with what Lisfranc has described as tubercular or scrofulous ulceration of the womb; but the microscope has shown that the matter assumed to be tubercular consisted of epithelial cells in a fatty substance, and resting on a hard, irregular ulceration in which epithelial and fibro-plastic cells were abundant. This form of ulceration would thus seem to be akin to those described as canceroid, and similar to lupoid ulceration, and to what Huguier has described as *esthiomène* of the vulva. In lupus, the secretion, being exposed to the air, forms crusts, whereas, in the pseudo-tubercular ulcer of the womb, the secretion is continually moistened by mucus, and retains a curd-like appearance and consistency. These ulcers are fortunately very rare, for they are difficult to heal, and require the use of strong caustics. With regard to ulcers met with in scrofulous subjects, I have already said that they present nothing specific, and they do not require any modification of the usual surgical treatment. It would be well, however, to attempt to remove the constitutional taint by combining the internal exhibition of preparations of iodine with judicious tonic treatment. Iodide of potassium, in a tonic mixture, will do well, but I prefer the iodide of iron given in a syrup, from thirty to sixty drops, in a little water, thrice a day after meals.

CHAPTER X.

UTERINE MISPLACEMENTS.

It is the fate of every important doctrine to be turned into a paradox by some crotchety man of talent; and that, by a natural process of reaction, one paradox should soon evoke another of an opposite tendency. These medical paradoxes are like the buoys that mark the rocks of a dangerous channel, and enable sensible men to keep the golden medium-line of safety in theory and in practice. The subject-matter of this chapter has been so recently reclaimed, that great diversity of opinion might have been expected. The ridiculous importance attached to the womb's deviating slightly from its usual position, so irritated Cruveilhier, that he declared the womb to be always on the move, and without a determined position. In like manner pathologists were led to affirm, that uterine displacements have no proper symptoms, because it was becoming the fashion to attribute all the sufferings of women to some moderate displacement or flexure of the womb; and, while some distinguished practitioners are afraid of passing the uterine sound into the uterus, others not only do so, but leave intra-uterine pessaries in the womb, and seem so fearless of accidents, that they sometimes let their patients make long journeys immediately afterward, without even telling them what has been done.

That aptitude for all mechanical contrivances which characterizes the British mind, has been brought to bear on the treatment of uterine displacements, for one of the best bandages has been invented by Dr. Hull, and several pessaries have been invented by Sir J. Simpson. An undue development of this mechanical tendency gave rise to a system of uterine orthopædics, in which the incontestable symptoms of inflammation of the womb

were accounted for by its misplacements. This system has still numerous supporters advocating their peculiar pessaries, and Dr. Graily Hewitt has lately asserted that "irritable uterus" was nothing else but uterine retroflexion. Patients were found sufficiently docile to lie on their back for a year, if the womb were anteverted, and on the belly if it were retroverted; and practitioners have entertained the singular notion that they could permanently restore the womb to its right position, if they replaced it by means of the uterine sound, every day, for two or three months. The absurdity of this plan led Sir J. Simpson to devise his intra-uterine pessary, which he advocated in the same enthusiastic spirit with which he has taken up chloroform for midwifery; tallow for consumption; numismatics, or revivals. No contagion is so catching as enthusiasm; the new panacea was extensively tried both at home and abroad, and, unfortunately, caused the death of many. Seven fatal cases, that occurred in France, were brought before the Imperial Academy of Medicine, and the treatment of displacements by intra-uterine pessaries was discussed at great length, and almost unanimously condemned. Sir J. Simpson seems to have acquiesced in the judiciousness of this decision, for he entered no protest against the statement of Depaul, who observed, in his report to the Academy: "*J'ai vivement regretté, quand j'ai voulu connaître les résultats obtenus par M. Simpson, de ne trouver que des assertions sans preuves; je me suis adressé directement à lui, mais au lieu des observations que je réclamais, je n'ai reçu que des instruments.*" Intra-uterine pessaries have indeed fallen into such disrepute in France, as well as in Germany, that they are scarcely mentioned by Dr. Goupil in the second volume of the work he published in conjunction with Dr. Bernutz.

With us there seems to be no abatement in the attempts to relieve uterine displacements by mechanical measures; for a very large number were lately exhibited by the Obstetric Society at the Royal College of Physicians, and, at a recent American National Exhibition, there was a display of several hundred pessaries; unfortunately, however, a host of remedies for any complaint implies their inefficiency, and, of the large number of pessaries that have been invented, most are useless, and some dangerous.

In the previous editions of this work I have related instances of women who were speedily relieved from uterine pains, and enabled to walk, on the womb being well supported by an air-pessary;

but these are very exceptional cases, and the general run of practice teaches me still to maintain, with Lisfranc, P. Dubois, Depaul, Gosselin, Bennet, Meadows, Bernutz, and Goupil, that, with the exception of prolapsus uteri, uterine displacements seldom cause much suffering, and that the pain and other symptoms that accompany them are to be explained by congestion, inflammation, or neuralgia of the womb, of its mucous lining, of its serous envelope, or of the ovaries. It is by ignoring antecedents so important as long-continued subacute inflammation of one or of several of the uterine tissues, cellulitis and peritonitis, or by undervaluing their agency, that the importance of flexions and versions of the womb has been exaggerated, whereas, the womb has been so constructed as to admit of being twisted and turned with perfect impunity, so long as it be not diseased, and flooding is often the first indication that the womb has been long subjected to extensive displacement by fibrous or ovarian tumors. I established the innocuity of uncomplicated uterine displacement in the papers which I published in the *Lancet*, and I refer the reader to Dr. Meadows's recent contributions to the same journal, and to the late Dr. Goupil's work, for a still more elaborate proof of the same position. Believing that the displacement theory is, in the main, fallacious, I protest against it, because it appeals so forcibly to popular prejudices; for the pain caused by a dislocated joint is so evident and severe, that a dislocated womb will be received as a sufficient reason to account for any amount of internal suffering by those who do not know better. Most of the practitioners who have adopted the mechanical treatment of uterine diseases have, doubtless, only been guided by the honest desire of curing their patients, but no theory more easily admits of being improperly taken advantage of by the unscrupulous. Redness of the neck of the womb, its being eroded or ulcerated, are tangible conditions to be seen by those who know how to look for them; but, unless uterine displacement be very considerable, no two practitioners will agree about it, for one will call considerable what another will consider slight, or will altogether deny. I have known practitioners lose their patients' confidence on account of the undue importance ascribed by a consulting authority to such a moderate amount of displacement as attends the overweighting of the womb by long-continued inflammation. If it be so difficult to form a just estimate of uterine displacement in those who have borne children, it is much more difficult to do

so when the vagina and the abdominal walls have not lost their virgin tensity. This great diversity of opinion respecting uterine deviations is not to be wondered at when one remembers the position occupied by the womb, and that it is a movable organ, amongst other movable organs; and, as the womb is not examined until its position has been altered by long-continued suffering, the practitioner is ignorant of what was its right position, and is therefore deprived of a positive standard by which to gauge the amount of displacement in the particular case. When only guided by the sense of touch, affections of the neck of the womb were involved in great obscurity; and, as it is impossible to bring the sense of vision to bear on the diagnosis of uterine displacements, their pathology is full of contested points, and their treatment is equally unsettled. Nothing proves more satisfactorily the imperfection of our acquaintance with uterine displacements than the fact that anteflexion of the womb, which was first recognized as frequent by Velpeau, and considered by him to be a malformation, is only an exaggeration of the normal bend of the unimpregnated womb. It was Dr. Bouland who, in 1853, established, by examining the development of the womb in the fœtus, and by numerous post-mortem examinations, that anteflexion is the normal condition of the womb in infancy and in the young unmarried woman; and this is freely admitted by Verneuil, Gosselin, Caseau, Aran, and Goupil.

The womb is poised upon the vagina, the walls of which, in the healthy subject, are in close apposition, so that the womb is really supported by a muscular column, which is firmly implanted in the perinæum. It has been correctly observed that the perineal floor forms the apex of a large inverted cone, of which the diaphragm is the basis, its sides being formed by the pelvis and by the elastic abdominal walls. Thus enclosed within the abdomen, the womb, standing on its apex, has an axis which is the continuation of that of the vagina. The womb is slightly anteverted, so that its axis is oblique from above downward, and in an antero-posterior direction, with a limited range of mobility in the pelvis, so that its axis varies in different women, and in the same woman, according as the bladder and intestines are severally empty or full; but to say, with Cruveilhier, that the uterus has no proper axis, is as incorrect as to say that there is no average weight, size, and form for the various parts of our frame. The womb is maintained in its

average position by the vaginal column, by the ligaments of the womb, and its surrounding organs. If the round ligaments exist in the only animal that stands erect, it must be, to a certain extent, to steady the womb; but to suppose that they are ever stretched sufficiently to keep it in its normal situation, and that anteversion of the womb depends upon these round ligaments being too short, and retroversion on their being too long, is an assertion too *square* to be in harmony with the real facts of the case. It is repeatedly said that, in cases of retroversion, if the patients are left on their backs for a time, the uterine ligaments recover their former tension, and are enabled to retain the womb in its right position; but if this may be asserted with some show of reason of the round ligaments, which contain muscular fibres, how can it be said of the broad ligament? If the womb is partly kept in its place by its ligaments, the same result is brought about, even more effectually, by the pressure of the surrounding organs. Thus, if the normal axis of the womb is inclined from above downward, and in an antero-posterior direction, it is caused by the greater capacity of the recto-uterine peritoneal pouch, than of the vesico-uterine, so that the bunch of intestinal folds, hanging above and before the sacro-vertebral angle, presses on the posterior surface of the body of the womb, and retains it in its right position. It may be said that unmarried women, after some unusual muscular effort, sometimes feel the ligaments give way; but this sensation may be interpreted by the womb having been suddenly forced under the intestinal mass. Thus poised on the vaginal column, the healthy womb maintains its position in virtue of the action of the forces to which it is exposed. All impulse resulting from the contraction of the diaphragm, the base of the large inverted cone, rebounds from the elastic perinæum, and the womb, by its pyriform shape, presents its surfaces so appropriately that it is steadied and supported by the various impulses it receives. The situation of the womb once determined, if, without departing from its normal axis, it descends into the vagina, it is said to be in a state of *prolapsus* and *precidentia*. This malposition and inversion of the womb were described, by medical writers of the latter part of the last century, as the only uterine displacement. Prolapsus frequently occurs in those who have had children, but Huguier has shown that it had been often confounded with hypertrophic elongation of the cervix uteri. The body of the womb may be bent on its neck, so as to

appear curved like a retort, thus constituting various deviations from its normal axis. These deviations are called flexions: if the body of the womb be bent toward the rectum, the womb is in retroflexion, and in ante flexion if it be bent toward the bladder. The axis of the womb, considered in itself, remaining normal, the womb may be displaced *in toto*, and incline to become horizontal, the patient being in the erect posture. Anteversion is frequent, as may be inferred from the frequency of ante flexion; retroversion is less frequently seen in those who have not borne children, and latero-versions are only occasionally observed.

CAUSES OF UTERINE DISPLACEMENTS.—The enormous distention of the vagina by parturition is the principal cause of prolapsus; for not only is the vaginal column weakened, but the muscular perineal floor and the perineal fascia, in which it is set, are often much weakened by over-distention, if not by laceration of the perinæum. Having thus lost its tone, the perinæum no longer sufficiently antagonizes the diaphragm, the womb is steadily pushed down the vagina, and successive labors only increase prolapsus. The additional impulse determined by any kind of over-exertion, by violent fits of laughter, of coughing, or of straining to relieve the bowels, will expedite the result; and the more shallow the pelvis, the shorter will be the vagina, and the more easily will the womb be forced through it. Abortion leads to prolapsus in the same way, and prolapsus occasionally occurs in the unmarried, because menstruation is a miniature parturition—the womb, the vagina, each portion of the generative canal, being abundantly congested with blood for about a week in every month; a substance is expelled by forcing pains which faithfully represent the more energetic pains of labor. Thus the process of menstruation relaxing the vagina, and rendering the womb more weighty, favors its tendencies to prolapsus, which will be sooner effected in proportion to the frequency and intensity of the forcing pains. A liability to uterine displacements is also the result of most diseases of the reproductive organs. The morbid stimulus favors the congestion of the whole generative canal; it relaxes the vagina, while it adds to the weight of the organ which it was intended to support. I have known the womb to be suddenly forced outside the vulva, after long-continued forcing pains, in a young unmarried lady suffering from chronic internal metritis, although the vagina was not more dilated than is usual in the unmarried. The coincidence of hernia

with prolapsus or procidentia of the womb, would show its dependence on a general relaxation of the fibres, and the utility of tonics and hydro-therapeutics.

The body of the womb may be in its right place, the vaginal cul-de-sacs may have their proper depth, yet the os uteri may project from the vulva. If the uterine sound penetrates easily from four to six inches, there must be an unnatural elongation of the cervix, and the elongation generally depends on that of its supra-vaginal portion. This is sometimes congenital, but it may be caused by puerperal metritis, checking the involution of the uterine tissues, and thereby determining an hypertrophic elongation of the cervix. Abortion produces the same results. I have several times met with very considerable elongation of one lip of the os uteri, and have attended a lady in whom the vaginal portion of the cervix resembled a large sausage four inches long, its extremity protruding from the vulva, in which case the bending of the womb on itself is a close imitation of what occurs to any long, flexible body, placed upright and imperfectly supported. Habitual connection will favor this condition, and indeed most uterine displacements are aggravated by coition.

With regard to cases of exaggerated ante flexion and retroflexion of the womb, I believe, with Jobert de Lamballe and Caseau, that many of them are congenital.

Malgaigne, in a case inspected after death, found that the body and neck of the womb were folded on each other like the leaves of a book: but, when put in the right position, it was maintained. Sometimes the retroversion of the womb also causes its body to bend on its neck, continued pressure producing actual loss of substance in the parts involved in the flexure, which may become atrophied, and the flexed point is then reduced to a mere fold or hinge. In other cases, the flexed parts have been found softened by fatty degeneration. Inflammatory action causes interstitial deposit, the flexure is more curved, and the infirmity becomes permanent. These anatomical conditions have been found chiefly in women who have borne children, and they often depend upon the irregular involution of the womb after parturition, causing the permanent retraction and atrophy of some of its muscular fibres, and the persistent enlargement of other portions of the womb; hence a loss of the balance usually existing between the body and the neck of the womb, and the bending of one on the other, from causes

which otherwise would not have produced this effect. Softening and hardening of the uterine tissues at the point of flexion may be caused by partial puerperal inflammation of the muscular tissues of the womb. Guérin has shown how certain deformities were caused by the inflammation and subsequent retraction of certain muscular fibres; and it may be admitted that sometimes limited patches of inflammation in the muscular structure of the womb determine its permanent deformity by the retraction of some muscular fibres. The womb is thus less liable to meet the pressure of the adjoining viscera, and so the uterine deformity is increased. The frequent and often undetected inflammation in the tissues subsequent to abortion, sufficiently explains its influence in producing flexions. In a case related by Levret, the shortness of both the round ligaments is said to have caused anteversion of the womb, which was mistaken for stone in the bladder.

About the third or fourth month of pregnancy, when the womb becomes completely retroverted, it is just large enough to be jammed in between the sacrum and the pubes. Insurmountable constipation, and the impossibility of passing urine, render it urgent to replace it in its right position, and then its further increase of size is sufficient to prevent the recurrence of retroversion. Such cases are very rare, but the womb, after parturition, has a tendency to be retroverted. This is favored by the relaxation of the various connections which kept the virgin womb in place, whereas stronger bands would be necessary to support the additional weight of the womb after gestation. Retroversion is, however, frequently observed in the unmarried after uterine disease of long duration; and occasionally after violent efforts; after a fall on the sacrum; after prolonged fits of laughter; after, in fact, any violent or sudden pressure to the abdominal organs. These exciting causes of retroversion are exactly the same as those which cause prolapsus, so the mechanism of retroversion should be rather sought for in its predisposing causes. For instance, in those subject to prolapsus, there is frequently a short vagina, a straighter sacrum, and a shallow pelvis; whereas retroversion is generally observed where the pelvis is deep, the sacrum long and greatly curved, and the vagina long and more than usually curved, so that the womb is placed higher than usual. The anterior wall of the vagina, and part of its lateral walls, are firmly attached to the pubic arch, and it is obvious that, for the vagina to be long and curved, there must be

considerable development of its posterior wall. Now, if retroversion occur, it depends not only on the womb being over-weighted, but on something having debilitated the posterior wall of the vagina. In pregnancy, this evidently is the result of its having been over-distended, to permit the child's safe passage through a narrow channel. In abortion and in menstruation, the same explanation holds good to a limited extent, and what is thus done by a physiological process is likewise effected by a morbid; for, in chronic affections of the womb, with frequent forcing pains, it is found greatly relaxed and dilated, while a less-marked alteration takes place in the length of the anterior wall of the vagina. Thus the womb is placed higher up, less forcibly retained in its place by local connections, and poised on a vaginal column the posterior portion of which is less solid than usual; retroversion will occur in proportion to the intensity of the exciting causes already mentioned. If the womb be kept in position by the pressure of the distended bunch of intestinal folds on its posterior surface, retroversion will be produced by prolonged dorsal decubitus, in which the inflated intestines will rise above the womb, and gradually depress it. Thus, in two patients who were placed in prolonged dorsal decubitus for the cure of fractures, Huguier found the womb lying flat on the pelvis under the intestines; and Robert cites two cases of complete retroversion of the womb in women who were long obliged to lie on their backs for paraplegia and typhus fever. It will be easily understood that, if the mesentery, from which depend the intestinal folds, or if the folds themselves are shorter than usual, the displacement of the womb will be facilitated. The *modus operandi* of a fall, in producing retroversion, deserves attention.

If the ligaments of the womb really retained it in position, a fall on the sacrum, or a great muscular strain, might impart a concussion, but would not cause displacement; whereas, by a fall on the sacrum, the womb may be forcibly impelled under the half-inflated intestines, and there remain; or, on some sudden strain being made to take hold of an object highly placed, the womb may be forced to pass under the intestines by the rapid, violent concussion of the abdominal walls. The sensation felt is as if something had suddenly snapped within the body, as if something had given way, and is not caused by the rupture of a ligament, for such rupture has never been found, but by the sudden displacement of the

womb; and on replacing this completely retroverted womb, it returns rapidly to its right place as if by a kind of suction.

Puerperal metritis, by checking the physiological process which brings the gravid womb back to its original size, is perhaps the main cause of retroversion. If the increased weight of the womb, by gestation or parturition, contributes to produce retroversion, it will be evident, that whatever increases the weight of the womb beyond certain limits, will produce the same result. Permanent enlargement which depends more or less on congestion, often precedes and follows inflammatory affections of the womb; this must therefore be admitted as a cause of retroversion or anteversion. If congestion of the womb is a frequent cause of retroversion, this, in its turn, increases the engorgement, by causing mechanical impediments to the venous circulation. In the same way retroversion may induce rectal or vesical tenesmus, which aggravates the displacement.

Latero-flexions of the womb have been observed in infants; they are often rectified by the changes that take place at puberty, but some persist irrevocably. Thus, Tiedemann gives drawings exhibiting an extreme degree of uterine obliquity, arising from the unequal development of the two halves of the womb. Morgagni found the uterus forcibly deviated to one side of the pelvis by the diminished length of the corresponding broad ligament; there was no tumor, no trace of previous inflammation to explain the malformation. The lateral flexion of the womb was produced by the absence of the round ligament, in two bodies examined after death by Huguier. Such cases are rare; but pelvi-peritonitis is an evident cause of uterine deviations, and has been too much lost sight of.

Pelvi-peritonitis is frequent after miscarriage and parturition, often without being distinctly recognized by the medical adviser. Nature sometimes works a cure, but the consequences may be felt ever after by the womb, for many pathologists have noted the frequency of the sequelæ of peritonitis in the pelvis; and lately, Bonnet has asserted that, after examining the state of the pelvic organs, of all those dying at the Hôtel Dieu of Lyons, he found that, in four out of five, who had complained of what are commonly called uterine symptoms, there was pus, thickening, or false membranes about the broad ligaments, causing deviations of the womb which no pessaries could correct. This cause of uterine dis-

placements has been demonstrated superabundantly by Drs. Bernutz and Goupil, who have lately confirmed, by numerous post-mortem examinations, all that I advanced fifteen years ago, regarding the frequency of peritonitis in the vicinity of the womb and of the ovaries, and respecting the pathological importance of pelvi-peritonitis.

SYMPTOMS.—In the latest works on uterine deviations, it seems as if the authors had ransacked books on uterine pathology, to discover all the possible symptoms of the various forms of uterine disease. Dyspepsia, intercostal neuralgia, hysteria, irritable uterus, have all furnished symptoms which have been adopted as those of uterine deviations; and mental derangement has been accounted for, by a twist in the womb. If writers have done this, it is because uterine deviations have no pathognomonic symptoms; and in their anxiety to enlarge their subject, they have been led to refer to uterine displacements, all the symptoms of the uterine diseases by which they are often complicated. In asserting that there are no pathognomonic symptoms of uterine deviations, I only affirm for uterine deformities what is admitted for spinal and all other deformities of the human frame. The symptoms most complained of are, feelings of uneasiness, or weight, at the lower part of the body, with bearing-down sensations toward the anus. There may also be pains in the back, in the inguinal region, or in the inner part of the thighs. These pains are much increased by walking; over-walking renders them intolerable, while the reclining posture relieves, and often lulls them completely. Partial paralysis of the lower limbs, and all the nervous symptoms produced by uterine diseases, are often noticed. Constipation and urinary disturbance may also exist, and disturbance of the menstrual function is not uncommon—the discharge being either too abundant, too scanty, or too painful. These symptoms are more constant in extensive retroversion, and occur, now and then, in cases of ante-flexion, which are in general harmless, as stated long ago by Velpeau. Scanzoni has somewhat exaggerated the influence of uterine flexions, in producing dysmenorrhœa by the interruption of the menstrual flow, and my experience teaches me, that ante-flexion is not complained of by the patient, unless there be uterine congestion and inflammation of the uterine lining membrane.

Such are the symptoms attributed to uterine deviations; but exactly the same symptoms often attend early pregnancy, miscar-

riage, and many uterine affections; some women will even present these symptoms, without its being possible to trace them to any structural change of the womb, as in uterine neuralgia or hyster-algia. Indeed, it is now admitted by almost all authorities, that the womb may be bent in various ways, and anteverted or retroverted to a considerable extent, without determining any symptoms. This I daily find to be the case; and in lately discussing the subject with some Paris physicians, who have vast opportunities for observation, I found that they have also been led to the conclusion that uterine misplacements give rise to little suffering, unless they are complicated by some other uterine affection. In Germany, the belief in the innocuity of uterine deviations is so gaining ground, that it has been injudiciously proposed to induce retroflexion of the womb, by means of the uterine sound, in order to cure prolapsus.

Cases of uterine deviation, giving rise to no symptom, are very frequent, because the final destination of the womb necessitated such arrangements as would insure to it the greatest possible latitude of movement, in the midst of organs so constructed as not to feel pain, or to have their functions disturbed by very extensive alterations in the shape or position of the womb. The uncomplicated cases are only accidentally discovered; the complicated come to us, and are variously examined, interpreted, and treated, by medical men. An idea of the complications most frequently met with may be gathered from the statistics published by Dr. Saussier. In 102 cases of uterine deviations, he found it complicated by one or more of the following diseases:

Ulceration of the os uteri, in	67 cases.
Engorgement of the body of the womb, in	53 "
" " neck of the womb, in	39 "
" " broad ligaments, in	68 "
Extreme uterine sensibility, in	91 "
Uterine catarrh, in	71 "

Dr. Goupil found pelvi-peritonitis in 16 out of 36 women, in whom the womb was anteverted, who had borne children; and Dr. Emmet asserts that peri-metritis generally coincides with retroflexion.

As I believe that the symptoms accompanying uterine deviations express some complicating uterine disease, it would be out

of place to treat them in detail, with the exception of those which are most frequently complained of. Unless the bladder be diseased, or the womb inflamed, its displacement has little influence on micturition. The bladder has been constructed and endowed to bear, with impunity, extremes of pressure, externally and internally applied, and it is unjustifiable to explain vesical symptoms by moderate displacement of the womb; when, however, a voluminous womb lies right across the pelvis, it so presses the bladder as to render its frequent evacuation urgent. Under similar circumstances, the pressure of an enlarged womb is a mechanical cause of constipation, which is most marked in retroversion. The sensation of a weight, and forcing down toward the perinæum, is often complained of; it is not pain, and still it is often said to be more distressing than pain. Theory states that this sensation should be most felt in cases of procidentia of the womb; but practice teaches that, when the womb is visible between the thighs, women complain greatly of exhaustion, and incapacity for exertion, but they do not complain of bearing-down pains, and are often still able to move about. Theory suggests that fibrous tumors of the womb, by their pressure on the rectum, ought to produce bearing-down sensations; but very frequently this is not the case. The bladder and rectum are often forcibly pressed, without the patient experiencing any great inconvenience; or, in other words, the sensations of weight are not always felt when the womb is forced through the body, or when it is pressed down by solid tumors. Women suffering from uterine catarrh, from erosions, from ulceration of the neck of the womb, do not in general complain of forcing-down pains, while others, in excellent health, often suffer much, every month, from forcing-pains, just before the menstrual discharge, and during the first day or two of its flow. These forcing-pains are signs of the ovarian nîsus compelling the womb to rid itself of blood, and represent the stronger pains by which the womb is forced to rid itself of the produce of conception. Women, suffering from habitual congestion and enlargement of some portion of the womb, often complain of the sensation of weight; thus, a few minutes after a patient, affected with retroversion of the womb, has left her bed, she will sometimes complain of bearing-down pains, yet, on examination, the womb may not be found more retroverted than when she was previously examined in bed, though her sufferings will last until she again lies down. It is

easy to say that bearing-down pains are caused by the dragging of the ligaments of the womb, but, as the forcing-pains are often absent in procidentia of the womb, when the uterine ligaments are most strained, this explanation falls to the ground. In women, at the approach of menstruation, in such, at least, who are affected with chronic congestion of the womb, the forcing sensations are in direct proportion to the determination of blood to the womb. When women, affected with uterine deviations, have forcing sensations on assuming the erect posture, they are probably caused by the over-distention of uterine blood-vessels, deprived of valvules. In other words, it is congestion alone, or complicating uterine catarrh, which causes the pain attending uterine displacements; this is relieved by whatever relieves congestion; and as the pain of varicocele is relieved by a suspender, so the pain of uterine displacement is sometimes removed by an instrument which supports the womb in its right position. This explains why dysmenorrhœa frequently attends all deviations, and why patients are often met with in whom permanent uterine displacement causes no other mischief than painful menstruation. If the menstrual flow be scanty, the congestion is greater, and the pains proportionably worse.

Continued pelvic pains, whenever the retroversion is considerable, have been explained by the stretching of the peritoneum, and by the long-continued strain on the broad ligaments. The ovaries are often more or less irritated in cases of retroversion, sometimes they are inflamed, oftener congested by some obstruction in their returning circulation, and Dr. Rigby has pointed to ovariitis as a result of long-continued pressure of the womb on the left ovary. Dr. Saussier found engorgement of the broad ligaments in 68 cases out of 102, and many of the distressing symptoms attending retroversion are to be referred to these complications. In many cases the uterine deformity is slight, and still the pains are very severe. Sometimes the same pains exist without any appreciable alteration of form and structure of the womb, which brings me to the consideration of uterine neuralgia.

Limbs, recovering from contusions or inflammatory affections, often remain long affected with annoying sensations of distention, heat, itching, or pain. This may be the case with the womb after the cure of inflammation. There may remain a neuralgic affection which must be treated as such. Neither must it be ignored, that

many women suffer much from uterine deviations unconnected with any uterine inflammatory lesions, nor that the same amount of uterine deviations, tolerated by some patients, will give rise to serious disturbance in others. This is but a repetition, in uterine pathology, of what holds good with every other organ. The same amount of morbid lesion will, at times, be unheeded by the nervous system, while, at others, it will awaken a host of nervous symptoms; thus, in certain constitutions, the uterine deviations so react on the uterine nerves as to induce irritable uterus. The nervous symptoms bear no proportion to the amount of the displacement, being sometimes intense when the deviation is slight, or when the deviation is extensive the uterine neuralgia may be slight. These nervous symptoms are often cured by various modes of treatment, while the uterine deviations persist, and may again and again wake up the neuralgia.

Prolapsus may take place to a great extent without its usual symptoms; usually, however, there will be forcing-pains and disturbance of the bladder and rectum. Half the misery, caused by procidentia of the womb from the vagina, depends on cystocele and rectocele, and on the subsequent inflammation of the mucous membranes of both the bladder and rectum. In some women, after the cessation of menstruation, procidentia of the womb is more inconvenient than painful: prolonged exposure to the air causes the mucous membrane of the vagina to resemble the skin, and its sensitiveness is so diminished that large ulcers no longer produce the pain or the usual symptoms of ulceration of the womb; and, when this organ has long lost its right of residence in the pelvis, its amputation is easy, and the dangers attending the operation are greatly diminished. Thus three-fourths of the cases of inversion of the uterus of long standing, in which amputation was performed, were followed by recovery, and Mr. Edwards, of Denbigh, so successfully removed a large prolapsed uterus from an old woman, that she was walking about three weeks after the operation.

Uterine flexions are not incompatible with pregnancy, although this is less probable, on account of the frequent coincidence of inflammation of the inner cervix, particularly at the point of flexion. The chances of conception diminish in proportion as retro or anteversion is more complete, and Dr. M. Sims has related several cases of uterine displacement, in which conception followed the wearing

of pessaries, the patient continuing to wear them during the first four months of pregnancy, to prevent miscarriage.

The diagnosis of uterine displacements was almost impossible before Sir J. Simpson showed the mode of using the uterine sound, and the admirable results to be obtained from a proceeding, the utility of which had already suggested itself to Récamier and Osiander. By means of the uterine sound Huguier was also able to establish the distinction between prolapsus of the womb and elongation of the cervix. Anteversion of the womb would not have been considered so frequent, if practitioners were in the habit of examining the same patient, both in the standing and in the recumbent posture; for the womb, which is found anteverted when the patient is standing, will sometimes be found retroverted when she is lying down.

The progress of those cases of uterine deviations which come under our notice may be inferred from what is known of the march of chronic uterine inflammations, and the uterine affections which most frequently complicate deviations. The progress of many cases of uterine deviations shows the neuralgic character of attendant sufferings, the symptoms suddenly subsiding, while the deviation remains the same. This sudden subsidence is sometimes caused by a serious illness, a reverse of fortune, an imperative necessity for exertion, or by a sudden shock to the nervous system. In other cases, these pains, which keep so many women on the sofa, wear themselves out, and gradually disappear at the change of life. Few women, from forty to fifty, consult for uterine deviations, which still, however, exist. After the cessation of menstruation, the ovaries cease to be the powerful centres of nervous power, and the periodical centres of attraction for the blood, and of prolonged efforts to expel it; therefore the womb becomes atrophied, cylindrical, and less weighty, its deviations become less and less apparent, and the vagina has a tendency to contract.

TREATMENT.—All cases of uterine deviations are problems embracing various elements, which have each in turn more particularly struck various practitioners, and so guided their practice that, one of the indications of such cases being often alone attended to, partial relief has alone been afforded. The radical cure will be more frequent, when all the bearings of the case are taken into consideration, for the only way of solving complicated problems is to eliminate one by one all their component elements; but, before

doing so, I shall make a few remarks applicable to most of the cases under consideration. With regard to constitutional treatment, I have nothing new to add. It is not always necessary to abstain from connection, but I know patients who only suffered from uterine deformities for the day or two which followed connection, and others who are never well except when their husbands are absent for a few months. There is also another precept easy to explain and difficult to enforce—that is, to consider the monthly period as a disease. Some patients never suffer except during menstruation, a few days before and after, and I have considerably abated their sufferings, and sometimes removed them, by persuading them to remain in bed, or on the sofa for a few days, using hip-baths and large warm abdominal poultices.

GENERAL TREATMENT OF DISPLACEMENTS.—It will be obvious from what precedes that displacements of the womb would require little or no special treatment, if the congestion, inflammation, and neuralgia by which they are complicated were successfully cured by the measures discussed in the preceding chapters. If, on examining carefully women who suffer much from uterine deviations, it is found that others are likewise affected with inflammatory congestions, erosions, or ulcerations of the neck of the womb, the pathologist will infer that the pains experienced depend upon these inflammatory lesions. At all events, the indication is clear—to treat the complication surgically, as, by so doing, the uterine deformity will, in some cases, be entirely removed; in others the suffering will only be diminished, and the inflammatory affection of the neck of the womb be cured, nevertheless they may still continue to suffer. The sequela of inflammation, the chronic enlargement of the neck of the womb or of its body, must not, however, be treated by halves, for there are patients who continue to suffer so long as there remains the smallest nucleus of organic mischief. A course of tonics or alteratives may, therefore, be necessary, as well as local astringent measures.

The importance I have attached to the relaxed state of the vagina, in the mechanism of retroversion and anteversion, explains my views of such treatment as may correct this state; astringent injections carefully made, the changes being rung on strong solutions of alum, sulphate of zinc, or tannin. The action of such remedies should be maintained by the nightly use of suppositories, containing either alum, tannin, or matico, and I sometimes enclose,

in cotton wool, a little lump of alum, about the size of a hazel-nut, and tie round it a piece of string, long enough for the ends to hang out of the pudendum, when the alum-ball is placed as high as possible in the vagina. The cotton wool imbibes the vaginal fluids, and they dissolve the alum by degrees, thus having a strong and prolonged action on the walls of the vagina. So great is the astringent action that it becomes difficult to pass the finger through the vagina, so as to reach the neck of the womb. I order the cotton wool to be removed the next day, and water to be freely injected, so as to bring away the thick coagulated mucus, which would diminish the effect of the subsequent injections. This mode of applying astringents I have likewise found extremely useful in the treatment of metrorrhagia. The well-known constricting power of cold, when permanently applied to animal tissues, suggested its trial, and it is often useful, when applied by rectal or vaginal douches, for fifteen or twenty minutes, two or three times a day. Douching the loins, while the patient is perspiring freely from the use of the spirit-lamp or Turkish bath, has often relieved the pains that complicate displacements. Indeed, my experience convinces me that much may be done, to remove the neuralgic symptoms of deviation, by cold-water treatment; and that it is injudicious to attempt to relieve uterine displacement by instrumental interference, capable of doing mischief, without having previously tried these remedies.

I have also removed, or much alleviated, the sufferings of many affected with uterine deviations, by the use of sedative injections into the bowels, generally prescribing from fifteen to twenty minims of Battley's solution, with a drachm of tincture of henbane, in a teacupful of warm milk, or by the nightly use of a vaginal suppository, containing morphia and belladonna. Struck with the fact that patients only suffered from uterine deviations when they are standing or walking, and are free from pain at night, some have inferred that prolonged repose in the horizontal posture would restore strength to the weakened ligaments of the womb. Lisfranc, therefore, prescribed lying on the back for a year or more; but this weakened the constitution without strengthening the uterine ligaments or curing the deviation; and, although adopted by Dr. Rigby, this plan is, I hope, now gone out of fashion. Resting from three to four hours on the sofa in the middle of the day is, of course, advisable, to diminish pain and pelvic congestion.

If connection be painful, it had better be postponed, though often the pains attending it may be prevented by telling the husband to avoid, as much as possible, pressing on the womb.

BANDAGES.—The object of those who enforced the absolute repose of the whole body was to insure rest to the womb, which can often be procured by bandages. Practitioners were struck with the fact that uterine deviations were often painful in married women, in whom the abdominal walls had been greatly distended by gestation, and it occurred to them that, if they could artificially restore to the abdominal walls the tone they had lost by being over-distended, the patient's suffering would be appeased. It is, indeed, impossible not to admit that the excessive mobility of the womb sometimes causes all the sufferings of women, since they are entirely relieved by merely wearing hypogastric bandages, which steady the womb while every other circumstance of the case remains the same; this is why the same hypogastric bandage is equally useful in all varieties of uterine displacement, except in prolapsus. Methodical pressure has dispelled many of those fibrous tumors of the breast that used to be confounded with cancer, and the inflamed testicle returns rapidly to its usual size on being firmly strapped every day with bands of diachylon. If it were possible to apply pressure in a similar way to a congested womb, its deformities would give less trouble; but we can only apply pressure indirectly by bandages and by pessaries.

It is usually stated that bandages relieve the womb from the pressure of the intestines: this explanation was questioned by Chassaignac, and Dr. Tarnier has lately ascertained experimentally that bandages diminish the abdominal capacity, render the womb less movable, and decrease its tendency to prolapse. I have assured myself, by a minute examination of patients, that bandages do not straighten a flexed womb, nor replace it when it is displaced: if they give relief, it is by coming to the rescue of the over-distended abdominal walls. They diminish abdominal capacity and support the womb by the more powerful contraction of the perineal muscles, while all the abdominal viscera are firmly pressed together, as in a well-formed healthy woman. This is so true that I have patients with uterine flexions who, when thin and out of health, suffer from the usual train of uterine symptoms, but when they grow fat they cease to suffer, because the deformed womb is better supported in the midst of pelvic organs, well cushioned and

padded with fat. If deviations of the womb determine excessive irritability in the adjoining nerves, and if these sufferings are best appeased by all such measures as will render the womb less movable, it exemplifies, in uterine pathology, a general law, which renders the slightest movement agony for those having a sprained ankle, a gouty limb, or whose heads are racked with headache. The value of *rest* in surgical diseases, on which Mr. Hilton has so ably written, is of such paramount importance in uterine surgery, that I believe much of the utility of pessaries is to be ascribed to the more or less effectual way in which they fix the womb. The well-made abdominal bandage presses the womb downward, the pessary presses it upward, and their combined effect is to steady the womb.

Dr. Hull's hypogastric bandage has been highly approved of, both at home and abroad; it acts by applying increased pressure to the womb, and may sometimes slightly correct the uterine deviations; but in many cases, though the bandage may have effectually removed the pains, I found, on examination, that anteversion was just as extensive, whether the bandage was on or off. It therefore relieves nervous symptoms by steadying the womb, and is as useful in uterine inflexions as in retroversion and anteversion. Some patients accustom themselves with difficulty to this bandage, and this may be in consequence of some hidden cause of irritation, which should be allayed, and the bandage again tried for a few days. This bandage is useful for women who have considerable abdominal weight to support, but I have found it useless and not easily borne by those who are thin and flat-bellied. With Dr. Hull's bandage the pressure is applied to the womb and the lower part of the abdomen; but, with other abdominal bandages, methodical pressure is applied to the whole of the walls of the abdomen. Vulcanized india-rubber belts have the great advantage of being as well borne by thin patients as by the fat, though there are some who can never accustom themselves to the lightest and best-made bandages, on account of the irritability and discomfort they occasion, for they cause erythema if not frequently left off. A patient, in whom the womb was considerably anteverted, was much relieved by wearing an ordinary double hernia belt, which has also been useful to other patients residing in India, who much prefer it to an elastic bandage. This interpretation of the action of abdominal bandages is confirmed by the

utility of abdominal pressure in several nervous conditions; in hysteria, as I have elsewhere stated; after parturition; and it is said that when the late Emperor of Russia loosened his stays the sudden collapse of the tightly-pressed viscera caused an extraordinary prostration of strength.

PESSARIES.—It is only when the vagina is irremediably dilated that, not being able to contract it by astringents, we consent to fill up the distended portion of the vagina in order to raise the womb and correct its false position; but when the globular pessaries have been used, it often happens that, while they relieve the patient's sufferings, the displacement remains unchanged, the pessaries being found filling the concavity of the sacrum behind the womb, pressure being thus applied to it, internally, through the vagina, and externally by hypogastric bandages.

Hippocrates supported the womb by placing in the vagina a small pomegranate, pierced through the core, to permit the secretions to pass away, and steeped in wine, flavored, doubtless, with turpentine, according to the Grecian custom: the pessary was then inserted as high up as possible. The form of this pessary was unobjectionable, and its stimulating properties were well calculated to excite contraction of the walls of the vagina. The Hippocratic pessary has even lately met with a faithful imitator, in a French surgeon, who uses for a pessary an unripe orange or a small lemon. A host of pessaries have been invented and forgotten, but the frequent return to the globular form sanctions its use in some cases. If, after correcting the uterine deviation by means of the finger or the uterine sound, we raise the womb as high as possible by means of a globe-pessary, then the intestines will steadily press the external surface of the womb, and will help to retain it in its right position, a result which will be promoted by a well-adapted abdominal bandage. Globe-pessaries are made of box-wood and of ivory, but those made of vulcanized india-rubber are preferable.

The idea of supporting the womb by air-distended appliances is derived from veterinary surgery, for a Greek of the seventh century is said to have supported the prolapsed womb of a mare by a pig's bladder, introduced empty, and then distended by a reed. Albucasis, in the eleventh century, introduced a sheep's bladder into the vagina to support the womb, and Columelle is said to have been in the habit of leaving a bladder thus distended till the tenth day, when he perforated and withdrew it. Levet

and Belloc used the same means to check rectal hæmorrhage; Mr. Arnott used a fowl's intestine for stricture of the male urethra, introducing it empty and then distending it, and Mr. Keate first suggested M. Bourjeaud's making india-rubber air-bougies for some diseases of the rectum, which led him to construct vaginal air-pessaries. Thus the idea of supporting the womb by an india-rubber bag, susceptible of being inflated by means of a tube after being introduced into the vagina, originated in England; the idea could not, however, be carried out until the discovery of the art of vulcanizing india-rubber, and to Dr. Garriel is due the credit of having given it practical efficiency. His apparatus consists of a bag of india-rubber, introduced empty, and then filled with air contained in a large bag, which is then removed: when the patient wishes to withdraw the pessary from the vagina, she has merely to let out the air; the bag collapses, and it can be easily withdrawn. The idea may be worked out in a cheaper but less effective manner, by an elastic ball made of vulcanized india-rubber, and permanently filled with air. In cases of prolapsus, or where the vagina was much dilated, I have made use of them well filled, but on other occasions the pessaries were only three-fourths full of air. There are numerous cases on record of wooden pessaries becoming incrustated with salts, and inflaming the womb, the rectum, or the bladder, even when they did not determine recto-vaginal or vesico-vaginal perforations; their extraction has often been a rather difficult surgical operation, and if, by unpardonable neglect, an air-pessary were left for months in the vagina, its presence would be less formidable, and its extraction easier. They should, however, be removed frequently, and if patients could learn how to replace them, it would be well to remove them once a day, to prevent any possible accumulation of secretions, and thus obviate an objection made to pessaries, which are not pierced with a hole, for the passage of vaginal secretions.

I agree with Dewees, Ashwell, and Dr. McClintock, that patients have been not only relieved, but cured, by globe-pessaries; and they do not require a tape or tube to be left in contact with the vulva; but, even when removed every day, air-pessaries sometimes increase vaginal secretions, and distend the vagina, so that it often becomes necessary to increase their dimensions; and, while recommending the elastic globe-pessary, until a better has been found, I am not blind to the imperfect mode in which it fulfils

some of the indications of treatment, for it has a tendency to slip downward, unless the pessary be of a large size, and present a convex surface to that of the womb. I have twice seen the menstrual flow repeatedly brought on by wearing a moderate-size pessary, which gave no pain.

To derive the full amount of benefit from air-pessaries, it is advisable to have a selection at hand, so as to be able to adapt the right instrument to each particular case. The small ones, with very thin walls, will be useful in unmarried women, and when the passage is irritable: the larger and thicker ones when the vagina is largely dilated. They cannot be well applied by the patient herself, except by means of an appropriate air-bag, to inflate the pessary previously placed as high up as possible, for, if the patient fill it by blowing into the tube, she must sit up, which would force down the bowels and drive the pessary lower down in the vagina. After using an injection, the pessary should be moistened with water or white of egg, not with oil, and then introduced while the patient is lying on her back. It should then be distended with air, and, after removing it at night, an astringent injection should be used, and the pessary placed in cold water. It must, however, be noted that the continual contact of the tube with the vulva is so irritating to some patients, and particularly to those who are obliged to walk or to exert themselves much, that they leave off the instrument; the same objection is sometimes made to the tapes, by which other pessaries are kept in place. Baron Dubois told me he had been occasionally consulted by women who had not been able to walk for years, but who suddenly acquired the power of doing so by the application of an air-pessary, and that, after wearing it for a few weeks or months, they were able to do without it, although the uterine displacement still continued the same. From this it appears that the pessary may be useful in those singular forms of uterine neuralgia which may be truly called hysterical, since no deviation, or any other appreciable change of structure, could be detected. A young married lady consulted me for continual pains in the sacrum and loins, accompanied by bearing-down pains, which were increased by the slightest exertion, so that walking was intolerable. Her sufferings commenced two years previously, after her last confinement. Many persons had been consulted, but neither they nor I could find any thing the matter with the womb, no organic lesion nor

deviation. Cold-water douches, sedatives, and injections, gave little relief; it therefore occurred to me to examine the patient in the standing posture. The womb did not appear prolapsed nor deviated, but on raising it with the tips of two fingers introduced into the vagina, the patient exclaimed, "You have taken away all my pains." I applied an air-pessary, which gave permanent relief, and was worn for six weeks, at the end of which period the patient was able to discontinue its use. Subsequent examination has enabled me to ascertain that the pessary had not produced any alteration in the elevation or position of the womb. Dr. Debout has mentioned a similar instance in the *Bulletin Thérapeutique*; as well as the case of an hysterical unmarried woman, who only became amaurotic on sitting up; after many other means had been tried, Dr. Debout applied an air-pessary, which effected a cure. At page 253 of my third edition, "Uterine and Ovarian Inflammation," will be found a case, exemplifying the utility of air-pessaries in chronic metritis, when there is an inability of walking from the overweighting of the womb. It is wrong to leave instruments in the vagina at the change of life; they generally become incrustated with saline deposits, which often cause fetid discharges, and may perforate the passage. At the Salpêtrière, a large asylum for incurable old women, it is not at all uncommon, on making post-mortem examinations, to find long-forgotten and irremovable pessaries. One of my patients, about fifty, had a boxwood ring-pessary introduced into the vagina ten years ago, where it remained until I lately tried to remove it, but menstruation having ceased for two years, the vagina had become contracted, and to extract it I was obliged to break the pessary, which was crusted with saline deposits. To remove the round boxwood-pessaries, Dr. McClintock uses a corkscrew with a long stem; after introducing its point into one of the holes of the pessary, he turns the screw several times, and then withdraws the instrument.

The action of a sponge as a pessary is similar to that of the globular air-pessary, and is useful by steadying the womb. A regularly-shaped oval sponge, about two inches in diameter, with a well-formed cup, should be chosen, for the natural surface of the sponge irritates the vagina much less than the cut surface of the same sponge. After soaking it in water for twelve hours, a thread being tied to it, the patient should introduce it as high as possible. It should be removed at night, well cleaned, left in water, and re-

introduced the following morning ; the necessity of taking these precautions sufficiently explains why the poor will not attend to them. The sponge may be previously steeped in a weak solution of alum, tannin, or perchloride of iron.

UTERINE FLEXIONS.—Notwithstanding all that has been written to the contrary, I still believe that, if practitioners would carefully eliminate the congestion or subacute inflammation that attends uterine flexions, they would very seldom require the application of pessaries ; but ante flexion and retro flexion may be so complete that the cavity of the womb may be unable to empty itself of the products of menstruation : it will then be right to seek to rectify the bend of the womb, so as to give passage to the retained menstrual fluid, when this retention is demonstrated by the sudden gush of fluid after severe forcing-pains ; but this should be done by means of an elastic catheter, used with very great care, and after due preparation of the case by antiphlogistic measures. The forcible use of the uterine sound is to be deprecated, for when ante flexion is congenital, the result of fatty degeneration, or has been made permanent by peritonitis, it is impossible to rectify the womb, and it would be utterly useless to try and do so, as the flexion would recur on the withdrawal of the sound.

One of the best instruments for maintaining the flexed womb in a right position is due to American ingenuity. I believe it was Dr. Meigs who invented the ring-pessary, to which he gave an oval shape, but Dr. Hodges had the happy idea of so bending the ring, to give support where it was most required, without distending the vagina or altering its normal shape. His pessaries are called lever-pessaries ; if the bent instrument be open, it resembles a horse-shoe, with prolonged and upcurved extremities ; if the bent wire be closed, it is generally shaped so that, according as it be viewed, it reminds one of a rounded quadrangle, or of a horse-shoe. The surgeon himself should shape the instrument, so that it may maintain the proper length of the vagina, and at the same time apply gentle pressure as high up as possible against, and in front of, the ante flexed or anteverted womb ; it is likewise by retaining the vagina in its right connection that the body of the womb is prevented from falling backward into the vaginal cul-de-sac. The instrument can be easily introduced, is not liable to slip, and cannot give pain or interfere with connection, if it be well adapted to the state of the parts. Unskilfully constructed, and injudiciously

retained by the patient, in spite of pain, the lever-pessaries will do mischief, and Dr. M. Sims mentions having seen Hodges's lever-pessary dig holes in the anterior wall of the vagina, almost through, and into the bladder; he has also seen Dr. Meigs's ring-pessary cut a sulcus in the posterior cul-de-sac of the vagina, deep enough to burrow the finger in.

In my last edition I drew attention to these instruments, and urged their more extensive trial, and I am glad to find that my own experience of their utility is confirmed by Drs. F. Churchill and Graily Hewitt, but they require to be more extensively tried before we can come to a definitive estimate of their value. As the invention is American, I will let Dr. M. Sims describe it in his own terms: "Lever-pessaries are made of different sizes, varying from two to three inches in diameter. The material, if tubular, may be a third of an inch in diameter, much less if solid. It matters not whether it be of block-tin or gutta-percha, so that it is malleable. Select a ring to suit the capacity of the vagina; compress it gently between the hands till it takes an oval form. It is then an imitation of a Meigs ring, and may be so used; but sometimes it is better to give it the natural curvature of the vagina after Hodges's plan, by making the distal end pass up behind the neck of the womb, while the proximal end has a slight counter-curvature, where it presses the neck of the bladder against the symphysis pubis. Great nicety is necessary in fitting an instrument so as not to injure, by pressure, the neck of the bladder, the posterior cul-de-sac, or the floor of the vagina, upon which rests the great curvature. It will be difficult to get one instrument, with its exact proportions, to fit any two cases, and it is often difficult to fit any given case."

When there is a fair amount of uterine tolerance, I have sometimes improved ante flexion and retro flexion by the use of Sir J. Simpson's metallic dilators: their stem is slightly curved and bulb-ended, and, as they do not interfere with the movements of the womb, they will sometimes be borne in cases which do not yield to other treatment.

It has been supposed that, in some cases of retro flexion, there was a state of active contraction of the muscular tissues at the point of flexion, the cervix having been divided by the hysterotomy, up to the internal os; and it is affirmed that, without other treatment than two months' rest, the womb resumed its right place, and the patient was able to return to her work. So great has

been of late the tendency to represent the slitting up of the cervix, as a sovereign remedy for all uterine affections difficult to cure, that the proposal requires to be carefully considered before it be adopted by other British surgeons. Dr. Marion Sims has lately stated that he never performed hysterotomy for retroflexion, and in writing to me, my friend Dr. Emmet, who was the colleague of Dr. M. Sims, at the Women's Hospital of New York, says: "I have never made the lateral incision more than half a dozen times in my life for flexure of the womb, and I could never understand how a flexure, existing above the vaginal junction, could in any way be relieved by the operation. On the contrary, if any case comes under my care, when this operation has been performed, I freshen the sides of the two flaps and unite them with silver sutures." I shall not comment on the unfortunate spectacle thus offered to us, of one surgeon having to sew up what another had divided; but will give another extract of the same letter, which bears on the subject in hand: "Formerly I used to divide the anterior lip in cases of retroflexion, but seldom do it now, as peri-metritis exists in so large a number of cases, that I prefer to trust to general treatment, hot-water vaginal injections, and frequent blisters to the neck of the womb. . . . In cases of flexure, I only divide the posterior lip backward, after I have tried other means, and then only with the view of being better able to treat the endometritis, that always exists in such cases."

If the patient be married and bearing children, there is a chance of Nature curing, in a perfect fashion, infirmities that we relieve in a more or less bungling way. The long physiological rest of the womb from menstrual irritation, during pregnancy and lactation, is evidently calculated to modify favorably uterine displacements. It has not always prevented the reappearance of congenital flexions, but, in my practice, two cases of marked ante flexion of the womb disappeared after parturition; in three cases, considerable anteversion, and in two, retroversion, were removed by the changes which take place in the puerperal womb. Scanzoni mentions three cases of ante flexion being cured by pregnancy; and Goupil states that, on carefully examining two women, three months after their confinement, he could find no trace of that retroflexion of the womb which he had distinctly ascertained to exist, before pregnancy. While pregnancy rectifies uterine flexions and displacements, the nutrition of the uterine tissues is so wonderfully active that those

diseased materials which caused the unimpregnated womb to bend on itself may be replaced by sounder tissues, which will enable the uterus to start on a new career in a right shape and position. Hence the obvious indication to consolidate this improved position of the womb, by keeping the patient on her back much longer than is usual, after her confinement; and I have occasionally done so for several months; it is also right to continue lactation as long as possible. Astringent injections should be made twice a day, when the lochial discharge has ceased to be red, and they ought to be continued for months. In the after-treatment of parturition, I do not think we sufficiently enter into the views of Nature, and forget that the womb is then more amenable to treatment, on account of the absence of the menstrual congestion, which, at other times, so frequently interferes with our attempts to cure.

ANTEVERSION AND RETROVERSION.—INTRA-UTERINE TREATMENT.

THE UTERINE SOUND.—Will it be believed that, at no very remote period, eminent practitioners thought they could cure a retroverted womb by using the uterine sound to rectify its mal-position, every day, for weeks and months? They might have tried till doomsday, for the womb always relapsed on the withdrawal of the instrument. It was the death of a patient, from peritonitis, caused by this practice, that brought the intra-uterine treatment of displacements before the Imperial Academy of Medicine.

INTRA-UTERINE PESSARIES.—Some of the latest Continental writers, Bernutz and Goupil, for instance, do not even mention intra-uterine pessaries as remedies for anteversion and retroversion, but the high standing of Sir J. Simpson and the number and enthusiasm of his pupils do not permit the subject to be thus summarily dismissed. Considering how little reliance could be placed on pressure applied outside the womb to correct its misplacements, it is not surprising that some should have thought of applying pressure and support inside of it. In 1827, Amussat made use of an intra-uterine stemmed pessary, and, although it was provided with a flexible stem, and every precaution taken, acute peritonitis followed rapidly. The sudden death of this patient, in the prime of life, thoroughly disgusted Amussat with his idea. Without having any knowledge of Amussat's attempt, it also occurred to Velpeau to keep the womb in its right position by an intra-uterine stem-pessary. This was equally unsuccessful, and Velpeau's com-

plete abandonment of the plan is a much more eloquent protest against it than his late qualified support. The same idea occurred to Sir J. Simpson, and was carried out with great ingenuity and perseverance, worthy of a better cause. He found a zealous disciple in Dr. Valleix, from whom Sir J. Simpson's uterine stem-supporter received several modifications: he diminished the length of the stem, and gradually reduced it to one-half the length given it by Sir J. Simpson, till at last the instrument could no longer fulfil its original purpose of making the womb straight; indeed, Huguier affirms that, in a certain number of women, by whom this intra-uterine pessary was said to be well borne, the stem was found out of the womb and in the vagina. Baron Dubois states that "the stem-pessary has never fulfilled the promise of its inventor, either in his own patients or in those of M. Valleix, whom he examined after treatment, or in Sir J. Simpson's, by whom he had been consulted; for, as soon as the instrument was withdrawn, the deviation became as marked as before its employment." Aran stated that he had never seen a case of anteversion or retroversion cured by intra-uterine pessaries. Scanzoni abandoned their use on account of their danger, and because, placed in the same field of observation as Kiwisch, he had become convinced, by an accurate examination of many of the patients in whom these instruments had been long and skilfully applied, that neither the patience of the sufferer, nor the skill of the physician, had been rewarded by the slightest improvement of the uterine displacements. The intra-uterine pessary has been reprobated, in equally severe terms, by Drs. Ashwell, Oldham, Montgomery, F. Churchill, and even in Scotland, by Dr. Ritchie. With Dr. West, I deplore Sir J. Simpson's having allowed his original papers to be reprinted without noticing the very dangerous results of the use of the stem-pessary in the practice of many eminent men of different countries, and without recording the fatal cases which may, perhaps, have happened in his own extensive practice, or in that of his pupils.

The intra-uterine pessary leads to *hazardous* practice. Caseau stated that he had examined, after death, seven or eight women in whom the womb was inflected or doubled up. In some the uterine tissues were so softened, at the angle of flexion, that it was easy to restore the womb to its right form, but it speedily became flexed when no longer supported in proper position. In other cases, the uterine tissues were so dense, at the angle of the womb's inflexion,

that it was impossible, without tearing them, to give the womb its proper form. In the first instances, the intra-uterine pessary might have punctured the softened tissues, and, if it did not do so, the benefit could only be temporary. In the others, the straightening of the womb would be impossible, and its rupture would necessarily follow the determination to correct the flexion, an accident which has occurred more than once. Thus, in flexions of the womb depending on the relative disproportion of one side of it, compared with the other, the intra-uterine pessary would be quite useless or fatal. When the womb is anteverted, retroverted, or strongly drawn to one side by false membranes, the well-known and frequent result of pelvi-peritonitis, great mischief might be inflicted on the patient by the use of the intra-uterine pessary; and, in the most favorable cases, the uterine deformity returns when the instrument is withdrawn.

The intra-uterine pessary may have done good to some patients by transforming chronic uterine inflammation into acute, which was then energetically treated; or by the flooding that ensued; or by causing a limited amount of pelvi-peritonitis; or by modifying, beneficially, the abnormal sensitiveness of the womb, just as the passage of a sound cures neuralgia of the neck of the bladder; or as the bistoury cures some neuralgic affections of the anus. Admitting even that, in some cases, it has acted, as was intended, mechanically, and has been of great benefit to some women without causing any serious accidents—admitting all this, I say, the risk is far too great to warrant the use of the stem-pessary. The numerous deaths which are known to have occurred in France, America, England, and Scotland, from the careful use of the intra-uterine pessary, militate strongly against it, when it is considered that the victims were in the prime of life, which is not compromised by uterine deviations. Some of these cases were most praiseworthy reported by the operators themselves; most of them, however, were only accidentally brought to light, one having been lately mentioned by Dr. Swayne, of Clifton, so, it may be fairly supposed, that not all the fatal cases that have occurred are known. They are backed, however, by a large phalanx, in which life was jeopardized, and only saved by very energetic treatment. In the most prudent hands, the stem pessary has, in some cases, perforated the womb, as in that mentioned by Dr. M. Sims, where its disk passed into the cavity of the uterus, and remained incarcerated

there for several days, with the cervix closely contracted around the stem, till it was removed by Professor L. A. Sayre. In others the instrument produced flooding to a dangerous extent, severe colics, metritis, peri-uterine inflammation, ovaritis, and inflammation of the broad ligaments, peritonitis, or metro-peritonitis. Doubtless many have survived, but with health impaired by the sequelæ of peritonitis, and other pelvic inflammations. These observations apply likewise to the use of the expanding stem-pessaries; one case has been published in which death occurred from metro-peritonitis on the tenth day after the introduction of an expanding stem-pessary, which was retained notwithstanding the pain it determined.

Dr. Moir has lately advised another mode of treating retroversion of the womb, entailing the extensive dilatation of the cervix, and the sojourn of an instrument which, even in the inventor's skilful hands, caused flooding and cellulitis, and Dr. Routh says it has not answered in his practice. It has been seen that at the point of flexure in some uterine deviations the tissues appear hardened and retracted by an inflammatory process. Récamier sought to imitate this, in a case of uterine retroflexion, by cauterizing the internal surface of the anterior portion of the womb, so as to excite the retraction of the fibro-muscular tissue, and thereby bring back its body to the right place; I object to the plan, although Aran mentions its having been tried, with good results, by Prof. La Faye, of Christiania. In discussing the influence of severe caustics on parturition, I stated that Amussat had cauterized the neck of the womb and the corresponding portion of the vagina, to cure retroversion by the bridles which would follow the use of the caustic, but no one has followed his example. To complete my review of the plans devised to cure uterine deviations, I may mention that Ricord replaced the stem of the intra-uterine pessary by a kind of forceps, susceptible of grasping the neck of the womb. I have not seen the particulars of the case; but Ricord says, "it was an unfavorable one," for the neck of the womb mortified. One word on rectal pessaries. In retroversion, it occurred to an esteemed authority to stuff the rectum with tow, to distend it by an air-distended tube, and to ask the patients to retain the fæces as long as possible. That was called a rectal pessary! Need we wonder that rectal pessaries were not well-borne by the patients? The same practitioner recommended, for anteversion, that women

should retain their urine as long as possible: plans of treatment requiring no comment.

EXTRA-UTERINE TREATMENT OF UTERINE VERSIONS.

There are some few women who bear with impunity any amount of uterine interference, but, in the ordinary run of practice, the use of intra-uterine pessaries is attended with disastrous results, so it is safer to trust to extra-uterine measures, after having first eliminated every inflammatory element. The next thing is to replace the retroverted womb by means of Dr. M. Sims's uterine elevator, which, as he says, "is simply Simpson's sound, with a joint or hinge two inches from its uterine extremity, but its *modus operandi* is very different. One elevates the uterus in a right line; the other in a curve to the right or left: one supports the weight of the organ on a ball at the os; the other principally on the point of the sound in the uterine cavity: one elevates the uterus by a power exerted on the cervix; the other by a like power on the fundus: one seldom produces pain, the other often does."

When the womb has been replaced in a right position, it has frequently been sought to maintain it there by globular instruments, of which Dr. Garriel's air-bag is the best, applied with all the care already recommended. This pessary, being often of no use, other instruments have been tried: thus Caseau has stated that he has seen cases of retroversion cured by Hervey de Chegoin's pessary, of which I shall only say that it is a kind of shovel made to support the womb. The cup-and-ball pessary was generally recommended by Récamier and Baron Dubois, but the stick of the instrument has a tendency to irritate the vulva. Roser's hysterophore has been modified in various ways: as recommended by Scanzoni, the instrument consists of an abdominal plate and an ebony ball, having a diameter of four centimetres, which is supported in the vagina by a stem, which articulates with the abdominal plate, so as to allow it a limited amount of mobility. The object of this is to press the anterior wall of the vagina against the pubes, and thus support the womb; but, if the posterior wall of the vagina is much distended, the desired result is not obtained. With questionable utility, the ball has been replaced by a cup, and again by an air-ball, by Dr. Goupil. These instruments are very expensive, require to be carefully watched, and easily get out of order; after all, it is unreasonable to distend a passage that was made muscu-

lar, so that it might, to a certain extent, support the womb, and I therefore think these instruments will be superseded by the American ring or lever pessaries, variously modified, which have been described at page 227.

PROLAPSUS AND PROCIDENTIA.—This kind of uterine displacement, more than any other, has distinct symptoms, which often justify mechanical treatment and surgical operations. The fact of the hypertrophic elongation of the cervix having remained so long unnoticed shows that it often requires the same treatment as prolapsus, with which it has been confounded. In the first place, the womb should be lightly touched with nitrate of silver, if it be ulcerated, and then replaced as soon as possible: this may not only quiet pain and relieve exhaustion, but will prevent the uterus from being irrevocably fixed in a false position, which would occur if pelvi-peritonitis set in before the womb was reduced. When it is really prolapsed, the womb slips in without pain, whereas, on attempting to force back a very elongated cervix, one can curve it and strain the uterine ligaments, but, on ceasing the effort, the womb will again project. To keep up a moderately prolapsed womb, much may be done by the frequent use of cold astringent injections, alternately using decoction of oak-bark and a solution of alum, as in the case of a lady, forty years of age, who had borne three children, and who consulted me for moderate prolapsus of the womb, causing very distressing sensations. After strengthening the walls of the vagina, by injecting a solution of nitrate of silver, twice a week, alum and acetate-of-lead injections were used on alternate days. This was sufficient to prevent the recurrence of the symptoms of prolapsus, although judicious advice had previously failed. If the womb hangs between the thighs, and is too voluminous to be returned, its size should be diminished by scarifications and saturnine lotions, which may render replacement possible. If not, it is well to follow Dr. McClintock's advice, and treat it like an inflamed testicle, by strapping the tumor round with strips of adhesive plaster, once or oftener, at a few days' interval, until its size is sufficiently reduced. The patient should then be placed on her elbows and knees, and the surgeon will try to force the womb back into the pelvis by pushing its neck up in the right direction, after which he will replace the hypertrophied folds of the vagina.

The pessaries which forcibly distend the vagina, like the ely-

tromochlion of Kilian, or Dr. Reid's gutta-percha spring-pessary, are objectionable, on account of the vaginal irritation to which they give rise, so I prefer those that support the womb without the extensive forcible dilatation of the vagina. The globular pessary, in boxwood or vulcanized india-rubber, is often useful; and, when combined with rest and astringent injections, I have seen it have a curative action, insomuch that the size of the instrument could be gradually diminished, and at last dispensed with. The old ring-pessary, or that of a circular or an oval shape, is often sufficient: those made of vulcanite stand the secretions well, and those made of vulcanized india-rubber, distended with air, are commendable for their softness and lightness. A considerably prolapsed and heavy womb is often well supported by Mr. Coxeter's gutta-percha stem-pessary, which resembles a funnel, its mouth being covered with thin vulcanized india-rubber, for the womb to rest upon, and pierced with holes for the secretions to pass through the tube. This can be easily introduced by the patient, worn without discomfort, and its frequent demand is a proof of its value. Similar to this is another still lighter pessary, devised by Mr. Coxeter, which he calls a spring-pessary, but the spring only serves to distend a thin india-rubber cup, destined to support the womb. The other end of the pessary is so easily fixed in the perineal band, that the patient can remove, fix it, or draw aside the band, without unfastening its straps; a greater convenience than would be at first imagined, and both these pessaries are cheap. M. Bourjeaud's mushroom or pyramidal pessary imitates one described by Juville, and is said to consist of an oval *cuvette*, with a central hole and short tube; but, instead of being made of solid india-rubber, M. Bourjeaud's is made of vulcanized india-rubber, and, if introduced empty, it can be inflated by a tube, to whatever extent may be necessary. When the apparatus is distended, it is well calculated to receive the neck of the womb in the depression on the upper part of the instrument: through the hollow stem any discharges may escape, and india-rubber imparts that elasticity which others sought to obtain from metallic springs. The apparatus is secured by elastic bands, which may be fastened to a narrow abdominal belt; it seems well devised to fulfil the objects of a pessary, two of its advantages being the possibility of regulating its size, and the avoidance of vaginal irritation.

Zwanke's pessary is the very best that has been hitherto

invented, to support a voluminous descending womb, by a kind of artificial floor. When introduced, it is something like a large bean, and the flanges of the expanded instrument resemble the cotyledons of the germinating seed. Mathieu, a Paris instrument-maker, had the ingenious idea of opening and folding up the instrument, by means of a screw placed in its stem, which does not increase its bulk; and the hole in each cotyledon is quite sufficient for the free passage of the secretions. All these instruments should be removed every night and placed in cold water, and if this be done, I do not see the utility of coating the instrument with vulcanized india-rubber. This instrument is unattended by any ill effects, if it be placed with proper care, and removed, if it slips out of place or gives pain; but it may be misused, like any other instrument, and Dr. M. Sims mentions having seen it sever the urethra from the neck of the bladder, cutting quite down to the vesical membrane, but not through it.

CAUTERIZATION.—In 1823, M. R. Gérardin proposed to form contractile cicatrices, and thus to narrow the vagina, increase the resistance of its walls, and, in some cases, to completely obliterate the canal. In 1833, Professor Laugier cauterized the vagina with acid nitrate of mercury; and, in 1835, M. Velpeau applied the actual cautery. The objections to cauterization are, the difficulty, especially with the actual cautery, of limiting the extent of its application, and the danger of injuring neighboring organs, which render it necessary to cauterize superficially, and therefore insufficiently.

EXCISION.—Drs. Némec and Marshall Hall proposed the removal of an elliptical piece from the anterior wall of the vagina, the edges being immediately united by suture, and Mr. Ireland recommended the removal of a quadrilateral flap on each side. Velpeau prefers removing pieces from the anterior and posterior walls, but, in the few cases in which excision has been practised, the prolapsus has returned in a few months. The tediousness and difficulty of this operation, its liability to injure the bladder or the rectum, and the chance of purulent infection, are objections to its performance. It is not even effectual, for although Scanzoni produced a contraction of the vagina in thirteen cases, by means of this operation, it did not prevent the recurrence of the prolapsus.

SUTURE.—M. Bellini proposes to include a fold of the vagina in a suture, so as to produce sloughing. But the fold may be too deep, and hæmorrhage may be produced; or the protracted pres-

ence of the sloughs may irritate the parts, and expose the patient to the risk of purulent infection. The instruments used by M. Desgranges, are small self-closing curved forceps, furnished at the end with projecting teeth, intended to seize a certain number of folds of the vagina; a holder, resembling a pair of lithotomy forceps, but having the end of one branch channelled, for the purpose of applying the small curved forceps; a trivalve speculum, a lithotomy gorget, a pessary to distend the vagina, and a double T-bandage. M. Desgranges has never made more than ten applications of the instrument, and he says that the surgeon must be guided by circumstances, in judging of the proper number of applications, but it is better to make too many than not enough. The pain is not great, unless the cervix uteri be seized, then it is severe, radiating to the loins and abdomen. When the forceps have fallen off, a small suppurating wound is left, and, by digital examination, small hemispherical projections are felt, varying from the size of a pea to that of half a cob-nut. The vagina gradually loses its calibre and its mobility. At a later period, it becomes covered with inodular bands; the narrowing goes on until the finger can scarcely be freely introduced. In process of time, the cicatrices become smaller, and even disappear; the vagina regains its suppleness; its contraction affords no impediment to connection, and, in one case, did not prevent delivery. Dr. M. Sims seems to adopt a somewhat similar but less complicated process. His plan consists in narrowing the vagina, by cutting off slips of mucous membrane, at appropriate distances from each other, either on the anterior wall of the vagina or the posterior, as the peculiarities of the case seem to indicate, and then bringing the cut surfaces together by silver sutures. The result is, to narrow the vagina, and this to any given extent, previously determined by the operator, frequently to about one-third of its breadth, the denuded surfaces having the shape of a trowel, the cross section being in front of the os uteri, and the apex pointing to the neck of the bladder. Dr. Emmet claims to have performed this operation for the cure of procidentia, a year before Dr. M. Sims read his case to the Obstetrical Society of London, and the former assures me that he has since had two cases in which all the sutures gave way, except that of the cross section, which was, however, sufficiently strong to retain the womb *in situ*.

NARROWING OF THE VULVA.—Dieffenbach excised a series of

longitudinal folds, round the orifice of the vagina. This only converts procidentia into prolapsus, and the merit of the operation is doubtful. Malgaigne believed that the excision of the anterior or the posterior semi-circumference of the vagina would be of more advantage than other methods; but the only case on which he operated in this way was unsuccessful. Scanzoni excised a portion of the vulva in five instances, but it did not prevent the recurrence of the prolapsus. Fricke, of Hamburg, proposed to unite the walls of the vulva by paring the internal faces of the labia majora, and uniting them by suture, as in perinæoraphy, leaving an aperture behind, for the passage of the fluids, and one in front, for the performance of the generative functions. The uterus was thus sustained by an artificial floor; but this was too low, and the treatment only ended in the substitution of one grave infirmity for another. When the prolapsus is caused by laceration of the perinæum, the only chance of a remedy is to be found in the several operations advised by Stoltz and Bosjeman.

HYPERTROPHIC ELONGATION OF THE CERVIX.—So long as it is possible to retain the cervix, so as to prevent its projection between the labia, no operation should be countenanced, neither would I do so if the patients were old, and the inconvenience bearable. In the last case I met with, the cervix could be seen on separating the labia, and still the lady managed very well with a perineal pad. Should this infirmity occur in a young woman, and prevent her earning a living, should it lead to matrimonial disunion by being both an impediment in connection and a cause of sterility, then the operation advised by Huguier is justifiable; the more so, as he has performed it in numerous cases without fatal or dangerous hæmorrhage. Dr. M. Sims has made an important modification in this operation, which he thus describes: "When the patient was fully etherized, and ready for the operation, it was reported that the *écraseur* was broken; so I had no choice but to amputate with scissors. I intended to leave the stump to heal over in the usual way, by the granulating process, which would take three or four weeks; but while examining the wound, and waiting for the bleeding to cease, the idea all at once occurred to me to cover over the cut surface with vaginal mucous membrane, just as we cover over the stump of an amputated arm or leg, by skin, after the circular method. Four silver sutures, two on each side of the canal of the cervix, passed antero-posteriorly through the cut edges

of the vagina, drew this membrane over the stump, covering it completely, but leaving an oval opening in the centre to correspond with that of the cervical canal. The parts united by the first intention, just as in a vesico-vaginal fistula; the wires were removed in eight or nine days; and the patient was soon on her way home, not having suffered the least inconvenience from the operation." Dr. Sims has operated thirty-three times by this method, and I believe it is the plan now adopted by American surgeons. If the case be one of considerable elongation of one lip of the vaginal portion of the cervix, its amputation may be considered a safe operation. These cases, are, however, rare; in two, I have imitated Montgomery, and preferred to remove the redundant tissues by potassa caustica. Judging from Huguier's experience, the cases which would justify amputation are those in which the supra-vaginal portion of the cervix is elongated. It is then necessary to separate the cervix from the bladder by careful dissection, which endangers the perforation of the peritoneal cul-de-sacs, and might bring on fatal peritonitis; for these reasons the operation must be reserved for very exceptional cases. Further details may be found in Huguier's memoir; but I must remark that, instead of the knife, it is better to remove the dissected surface by the *écraseur*, or, better still, by means of Maisonneuve's *serre nœud*.

CHAPTER XI.

UTERINE COMPLICATIONS.

THE complications of uterine disease are sometimes so painful that it is difficult to convince a patient, suffering severely from the bladder or the rectum, that these troublesome complaints are really caused by some disease of the womb; nevertheless, the close vicinity of the reproductive organs to the pelvic viscera, their important relations, and the painfulness and chronicity of many uterine affections, sufficiently explain their frequent complications. Those which I shall consider briefly are: first, inflammation of the adjoining portions of the reproductive apparatus; secondly, diseases of the breasts; thirdly, diseases of the bladder; fourthly, gastro-intestinal disorders.

Although divided into distinct portions for special purposes, the reproductive canal should be considered as pathologically *one*, from the ovary to the vulva, as it is *one* anatomically in most of the lower animals. As a natural result of the solidarity that unites the different portions of the reproductive apparatus, any serious inflammatory lesion of one portion of it endangers the health of that which is situated above and below the part diseased. Inflammation passes from the womb to the oviducts more frequently than is supposed, and may terminate in an abscess, or in adhesive inflammation of the fimbriated tentacula. Inflammation thus passes on to the peritoneum from the point where the mucous and serous membranes unite, and the subserous tissues of the ovaries may thus become inflamed.

PERITONITIS.—I merely mention this as a complication that ought to be ever present before the practitioner's mind, when he has to treat morbid ovulation and dysmenorrhœa. The post-mortem examinations related in the works of Aran, Bernutz, and

many recent writers, confirm my statements relative to the frequency of pelvi-peritonitis in connection with ovulation and inflammation of the ovary and of the womb. This caution will insure the rest which offers the main chance for the patient's well-doing; leeches, poultices, mercurial inunctions may be required to prevent the case degenerating into one of those rare and distressing instances of disease, in which menstruation is frequently followed by an abscess in the vicinity of the ovary, which may be abortive and subside after a time, or become an abscess, opening after about ten days, into the bowel, or, after a longer time and greater pain, into the vagina. *These* are extreme cases, in which leeching the abdomen is often commendable, and opium may be given in proportion to the amount of pain.

OVARITIS.—In another work I may have erred in describing as special varieties of subacute ovaritis, the well-marked cases that I had met with; but the works above mentioned, and the tenor of medical literature during the last fifteen years, have justified the position that I prominently brought forward in 1850, that the ovary holds sovereign dominion in pathology, as in physiology. Ovaritis is much more frequently a cause of uterine disease, than its result, although it has been known to follow idiopathic and blennorrhagic disease of the womb. Deeply seated in the pelvis, the ovaries almost escape from direct treatment. Leeches, blisters, ointments, baths, only act on them indirectly; tonics and sedatives have a more direct action; but I believe the best way of treating subacute affections of the ovary is to maintain the womb in the healthiest possible condition; for treating the cervix by vaginal injections and suppositories, strongly affects the ovaries; a fact that has doubtless misled some pathologists to ascribe almost every feminine ailment to inflammation and ulceration of the cervix. In like manner inflammation may descend from the womb to the vagina and the vulva, either because the tissues are continuous, or because the uterine secretions irritate the parts they touch; either by their own offensive nature, or by the reaction of the alkaline uterine secretions on the acid mucus of the vagina.

VAGINITIS.—This is a frequent ailment and may be the only complaint, or the complication of most uterine diseases. It should always be first treated by warm hip-baths and linseed-tea injections, then by cooling injections with borax or acetate of lead. Afterward, astringents should be tried either by leaving in the

vagina, for a couple of days, a dossil of cotton wool soaked in a solution of glycerine and tannin, or by tannin and alum suppositories; and it may be necessary to have recourse to injections of nitrate of silver, as already stated at page 134.

VAGINISMUS.—This is a name given by Dr. M. Sims to a spasmodic sensitiveness of the vaginal mouth, which precludes connection, and is solved by the inhalation of chloroform. I have very seldom known this state to exist, except as a symptom of vaginitis or of chronic metritis, and by treating these complaints, I have been able to cure spasmodic stricture of the vagina. Sometimes the spasm exists higher up the vagina, as in a highly-nervous patient, who had been married five years, without connection having been perfected. In this case the finger was stopped about two inches from the vulva, but after gentle, though forcible pressure, I passed the stricture, and I ascertained that it was spasmodic, a medium-sized speculum being easily introduced. There was some uterine inflammation, leading to the hope that its removal might solve the spasm, and I pushed the use of atropia and morphia, in suppositories, so far as it could be borne without symptoms of poisoning. The patient was much better when she left town. Had these measures not been sufficient, I should have treated the case as certain strictures of the rectum have been cured, by forcible distention of the vagina, the patient being under chloroform. It occurred to Dr. M. Sims to treat vaginismus, as a spasmodic stricture of the rectum is sometimes done, by dividing the muscle and nerves of the vaginal sphincter. He claims to have effected this often with favorable results, but I am not aware that any European surgeon has imitated his example; it is not a dangerous operation, but I have never met with a case that required it.

FOLLICULAR INFLAMMATION OF THE VULVA.—This is also a frequent complication, sometimes receiving exclusive medical attention, yet maintaining its ground for years, notwithstanding varied local treatment, should the practitioner ignore the uterine inflammation in which it originated, and by which it is fostered. Notwithstanding the most judicious surgical treatment of uterine disease, follicular inflammation of the labia will occasionally arise in the course of the treatment, and will require great cleanliness, not easily attained; for, I have often found, in bad cases, that the deeper portions of the labial depressions were covered by sebaceous secretions, although the patient washed several times a day. The most dis-

eased parts were, on that account, but tenderly touched, and the lotion or ointment, not coming in contact with the diseased tissues, did no good. Warm hip-baths are very useful in such cases, for the water will soften the concretions, so that the patient can remove them by the impulse of the water, or by the gentlest application of the finger. Careful and frequent washing with a tepid emollient fluid, milk-and-water, linseed-tea, or poppy-head decoction, and the application of glycerine after each ablution, will be sometimes sufficient; lotions with borax, chlorate of potash, acetate of lead, sulphate of zinc, or aluminated iron, to which laudanum or hydrocyanic acid can be added, are often necessary, and their efficacy is increased by steeping a piece of old linen in one of these, and applying it carefully, so as to make it fit into the labial depressions; but, as the patient must do this herself, it is seldom well done. A saturated solution of perchloride of iron in glycerine, has been found a useful application, and nitrate of silver may be required, but must be applied by the surgeon, as I have already described at page 135: after the application has been made, the patient should remain quiet, use no wash or injection, on that day, and with great gentleness on the following, for some of these cases are prolonged by over-anxious interference on the part of the patient, just as ulcers on the leg will not heal, if too frequently dressed. A curative process progresses under the thin muco-metallic pellicle, deposited by the solution of nitrate of silver, so it should be allowed to stop on as long as it will. The bowels should be kept regular by saline purgatives; rectal sedative injections or suppositories may be given once or twice a day; and, though this plan of treatment never failed me, on the faith of Trousseau's recommendation, I should have no hesitation in trying, as a lotion, a pint of water, in which is dissolved a large pinch of a powder made with equal portions of bichloride of mercury and hydrochlorate of ammonia. He also recommends, first, two vaginal injections a day; then, one of a solution of bichloride, one drachm to the pint of water; but I should try much smaller quantities.

THE VULVO-VAGINAL GLANDS sometimes become inflamed, and, if the canals through which their secretion passes to the vulva become obliterated, a more or less distinctly defined and round hardness, of about the size of a walnut, will be found in one or both labia; it may be either a cyst or an abscess, but, in either case, it is useless to waste time with leeches or the external use of iodine,

though the cyst may be punctured and injected with a concentrated solution of the tincture of iodine. I think it best to open these abscesses freely with the bistoury, on the mucous surface of the labia, and to touch the edges of the wound with nitrate of silver. It will be necessary to inject the cavity with a solution of nitrate of silver or tincture of iodine every other day, to prevent the premature healing of the lips of the wound. Abscess of the labia, the consequence of diffused phlegmon, requires speedy opening and careful dressing, so that the opening may not close too soon.

I have occasionally met with repeated crops of boils in the labia of those who have long suffered from uterine disease: hip-baths and emollient topics often suffice, but I have sometimes been obliged to open them freely with the lancet, in which case the bleeding prevents their recurrence: the distress they occasion is out of all proportion to their danger.

CUTANEOUS IRRITATION.—When the skin is over-sensitive, or the uterine secretions very irritating, there is often an extensive excoriation of the nates, which greatly adds to the patient's sufferings. Sometimes a seemingly-inoffensive discharge will produce great excoriation, and nothing causes it so much as the watery discharge of acute internal metritis. Great cleanliness, emollient injections to dilute the acrid secretions, and washing the excoriated surfaces with very thick linseed-tea, a portion of which, being left to dry, forms a protecting coat against the irritating discharge, are almost always successful; the free use of violet-powder is serviceable, as well as the lotions recommended for labial inflammation.

PRURITUS.—This may affect the vagina, the labia, the clitoris, or all alike; and the inexperienced practitioner has no conception of the amount of misery caused by this complaint. It rather depends upon the susceptibility of the patient's nervous system than upon the intensity of inflammation, for it may exist independently of it, or it may accompany all its varieties. The amount of pruritus so little measures the amount of inflammation, that my worst cases were allied to chronic and slight uterine irritation, as in a single lady of fifty years of age, in whom it is brought on by the slightest fatigue or worry, often wakes her, resists the application of remedies, and makes her pass the remainder of the night in pacing the room. When pruritus settles in the clitoris and labia, masturbation may be practised independently of sexual desires. If often repeated, this cannot take place without awakening these

desires, and sometimes to a considerable extent. I have already stated my belief that in the frightful cases of onanism related by Tissot and others, the morbid stimulus would have been found in uterine inflammation, if the means of detecting it had been then available. When it is a question of sexual pruritus, it is obviously indicated to pursue inflammation, wherever found lurking in the reproductive apparatus, by leeches and the injections pointed out as useful for vaginitis. The application of strong astringents, like alum in powder, first used mixed with its weight of white sugar, and then pure, introduced in a pledget of cotton wool, which can be left in the vagina for some hours, removed by an injection, followed by a reapplication of a similar topic, and so on for a week, will be found useful: this plan is praised by Scanzoni, who also speaks well of painting the walls of the vagina and vulva with a chloroform liniment, two scruples of the sedative being added to an ounce of almond-oil. These remedies will not be always effectual, and I have shown, at page 91, that vaginal pruritus is best cured by the injection of a strong solution of the nitrate of silver, or by painting the vagina with the tough nitrate of silver. Even this has not cured the lady, whose sufferings I mentioned, but it relieved them for a time: when the distress is bearable, she prevents its increase by resting with her feet high up, *more Americano*, by cold-water injections, or water containing a teaspoonful of borax and a tablespoonful of glycerine to the pint, or two or three tablespoonfuls of the *liquor carbonis detergens* to the pint, and by belladonna suppositories placed in the rectum. In this case pruritus is associated with general hyperæsthesia of the nervous system, the skin being often subject to a similar distressing irritation. Pruritus of the vagina is one of the most annoying symptoms of uterine cancer.

IRRITABLE TUMOR OF THE URETHRA.—These tumors are analogous to hæmorrhoids, and do not often complicate uterine inflammation; but I may mention their having been unusually distressing to three of my patients, who have been exceptionally severe sufferers from various forms of uterine inflammation. When moderate in size, I touch the irritable tumor with concentrated nitric acid; when larger, I draw it out with the forceps, cut it off with curved scissors, and check the bleeding with caustic if it be too considerable.

INFLAMMATION OF THE URETHRA.—When the difficulty or inability to pass water is not removed by mild measures, I have gen-

erally found it depend on inflammation of the urethra, which can be felt round, solid, and enlarged to twice its usual size, and very painful when touched. In this case cooling injections are requisite, and dilutions with linseed-tea, or some other cooling drink, and warm hip-baths. It may, however, be necessary to introduce a tannin-bougie three or four times, at five days' interval, into the urethra. Tannin-bougies are made by dipping medium-size bougies into gum-water, powdering them with tannin, letting them dry, and, after rubbing off the asperities, dipping them in gum-water previous to their use. As a last resource, a stick of nitrate of silver may be rapidly passed into the passage. I have seen a small abscess form in the areolar tissue surrounding the urethra, and discharge a teaspoonful of matter, after giving great pain: this occurred three times to the same patient during a long course of chronic uterine inflammation.

IRRITABLE BLADDER.—This is a very frequent attendant on all kinds of ovarian and uterine disease, and may be met with, independent of any organic disease, in highly-nervous or hysterical women. The urine should always be examined, to know if the irritation depends on pathological urine, and, if it be mixed with mucus, inflammation of the bladder may be feared. To understand the rationale of the vesical and rectal disturbance caused by uterine inflammation, we must remember how the womb is placed between the bladder and the rectum. The inflamed womb acts in the same way on both organs, congesting or irritating them, so that they are spasmodically closed or seized with an uncontrollable impulse to eject their contents; for the womb, the anus, and the neck of the bladder, are alike subject to this impulse; and tenesmus, arising in one of these orifices, often spreads to the other organs, and causes them to act together. The nervous or functional affections of the bladder, which often complicate the various forms of uterine inflammation, are, heat, uneasiness, or slight pain felt above the pubes; the frequent spasmodic contraction of the bladder to pass but little urine, the tenesmus accompanying micturition causing a spasmodic contraction of the urethra, preventing the passage of urine, and sometimes rendering imperative the use of the catheter. The nervous character of these phenomena is clear, from the fact of their spontaneous subsidence, and of their being often easily removed by warm hip-baths, by warm abdominal fomentations, by a linseed-meal poultice

sprinkled with laudanum or with powdered camphor, by abdominal friction with opiate liniments, by the use of cold-water abdominal bandages, and by atropia-ointment, spread on gutta-percha cloth, and applied as a plaster above the pubes. The foregoing statements relate to the influence on the bladder of an inflamed womb, occupying its right position; but, if it be anteverted, it will press the bladder, and a portion of this sac will be somewhat displaced by a moderately-retroverted womb. This is daily observed without giving rise to any vesical symptoms, for the bladder is constructed to bear with impunity extensive pressure and displacement. When, however, the womb is so completely anteverted as to lie flat across the pelvis, it may account for vesical disturbance; but to pretend to cure vesical symptoms, by digital attempts to give a right position to a moderately-displaced womb, is absurd. The practitioner should carefully intimate to the patient the existence of any amount of uterine displacement; for, if she heard of it for the first time from a new doctor, she would naturally conclude that he had found the key to sufferings hitherto inexplicable; the difference between the two practitioners being, that the second attached undue importance to the necessary result of long-continued uterine congestion, whereby the vesical veins may sometimes be greatly distended. The practitioner will guard against allowing the urine to be too long retained, not depending on the patient's assertions, but examining with the hand above the pubes.

Perhaps the cases which are most perplexing are those dependent on the *hysterical* temperament. For if one is over-active in attention to the local symptoms, by employing the catheter, the very trouble may be established that is sought to be cured, while, by permitting retention to last too long, serious injury may be done to the bladder. Generally, however, the patient passes urine before it has produced any serious trouble; and, by diverting her attention as much as possible from this symptom, and by attending to the general hysterical state, these symptoms may vanish sooner than if the treatment had been more active. One may at least allow thirty-six hours to elapse before using the catheter, but much would depend on the quantity of urine secreted. An opiate, a warm bath, and a purgative, will most probably succeed in removing the retention, but if not, after allowing the above-named time to elapse, it will be best to employ the catheter, if the blad-

der be fully distended. Dr. Braxton Hicks has mentioned a kind of retention of urine occurring after severe nervous or physical depression, which cannot be classed with those just described. It doubtless arises from a want of nervous power, and yields to treatment adapted to the improvement of the general health. Should retention continue after twenty-four hours, it is well to employ the catheter; but it should not be too often or too early employed, unless cystitis be threatened. In one case he found the galvanic current passed through the pelvis and loins act very well, and speedily overcame the retention.

Irritable bladder often follows cystitis, and may require the occasional washing out of the bladder with a weak solution of opium or morphia, as I am about to mention. Mr. Gant considers sulphuric ether more useful than any other antispasmodic to relieve irritability of the bladder. By establishing the fact, that hyoscyamine and atropia pass out, undecomposed, through the kidneys into the bladder, Dr. Harley has enabled us to understand the utility of henbane and belladonna to blunt the sensitiveness of irritable bladders.

CYSTITIS.—Inflammation of the bladder is of very rare occurrence as a complication of uterine inflammation, except when the womb has fallen outside the vulva. I have, however, seen several cases in which there was a frequent desire to micturate, with exquisite pain on passing urine, loaded with ropy mucus, continue unabated for many months. In one case, the patient was told by an eminent surgeon, that it was caused by uterine ulceration, but the vesical symptoms were not cured by the surgical treatment of the uterine disease. Beyond habitual congestion and dysmenorrhœa, there was nothing amiss with the womb; the urine, analyzed by Dr. Beale, contained bladder-epithelium and pus: its specific gravity was 1,015, and 1,000 grains contained twenty grains of urea, showing that the patient suffered from chronic cystitis. I gave sesquichloride of iron with tincture of hyoscyamus, in an infusion of quassia, vaginal injections of acetate of lead and laudanum: ordered a strong belladonna ointment to be applied to the pubic region, after the previous application of eight leeches. This patient gradually recovered; but another, a young married lady, in whom considerable cervical inflammation was brought on by marriage, and had lasted two years, suffered such vesical distress that it was the torment of her life. The urine resembled that previously

described, but the most careful examination of the urethra and bladder left unexplained the persistence of vesical pain. I relieved it for a time, by directing my treatment to the disease of the womb; but the old suffering returned, and I feel convinced I could have effected its cure, had I been then acquainted with the local mode of treating diseases of the bladder, thus well described by Dr. Braxton Hicks, in the *Lancet*, 1867; and, as Sir Henry Thompson is said to deny to the bladder the power of absorbing morphia, it is well to state that Dr. B. Hicks's contrary assertion has been lately confirmed by Dr. Guyon, of Paris:

"In the earliest stages of the acute form, the best mode of proceeding is to place the patient at rest in bed; if possible, to give a hip-bath, with warm vaginal injections, followed by leeches to the vagina or lower abdomen, if the pains are very severe. An opiate vaginal or rectal suppository of two grains of opium, once or twice a day, will much assist. The urine should be rendered as bland as possible by the administration of alkalies; opium frequently, and in full doses, according to the relief produced. After the earlier symptoms have passed off, and the muco-purulent secretion has commenced, we may begin the washing out of the bladder with hot opiate injections. At first the presence of the catheter gives much pain and distress; but, after a few days, this may be done without pain, and with much future advantage, for the act of washing out the bladder rids it of the alkaline state of the secretions, the mucus, and the entangled crystals. All these, by their retention, increase the original trouble, to a degree you would scarcely imagine, till you see the great relief obtained by ablution with an acidulated fluid. I first of all wash out the bladder with warm water, slightly acidulated with a few drops of nitric, hydrochloric, or acetic acid (a tablespoonful of vinegar to a pint of water answers very well), to the ounce. As much as the bladder can bear should be used. This is allowed to flow out again; and, if it can be borne, another similar quantity is injected, and allowed to flow. After this, a grain of morphia, dissolved in one ounce of water, slightly acidulated with hydrochloric or nitric acid, should be thrown in, and allowed to be retained as long as it can be borne; the longer the better. This should be repeated, if possible, twice a day. The fluid should be thrown in very gently: an ordinary gum-elastic catheter will do, fitted to a syringe holding three or four ounces. It is well not to pass the catheter far

beyond the neck of the bladder, otherwise, if it touches the sides or back, the distress is great. In such case, more force must be used upon the piston of the syringe. Now, although some temporary distress is caused by the operation, it will, as a rule, be found attended with so much benefit, that it far outweighs the pain. Some authors have stated that the employment of injections has caused so much pain, that it has led them to discontinue them. I can only speak from my own observation, which quite tends to the opposite. It may be that, done for the first time, it has acted so, but if they are continued this soon wears off, and in its place a marked improvement results. In any case, the pain of an injection has scarcely ever been complained of by the patient, as any thing unbearable; nor, in those cases where I have inquired, has more pain been felt than ordinarily is endured by them in the disease.

“If the condition does not much improve by means of previous measures, I venture to try an astringent, such as one or two grains of tannic acid to one ounce of water. At first this produces an increased contraction of the bladder, but it subsides after one or two applications. If the urine be putrid, I have found the employment of chlorate of potass, in four to five grains to an ounce of water, highly useful. I was led to its use in the following manner: In a case of this nature of a very severe character, where life was in jeopardy, I ordered a gargle of chlorate of potass for the severely aphthous mouth. By mistake it was injected into the bladder instead of morphia. Immediately the putridity of the urine ceased, and the patient began to improve in general state and in local symptoms. So marked was this, that, although she had up to that time been steadily going down, directly the injection was used the change for the better was most marked. In similar cases I have tried it many times, and always with good results. It may, however, give some pain if too strong.

“If in some cases there is bleeding combined, I have used tannic acid in two to four grains to the ounce of water; or even tincture of muriate of iron, diluted with water. It might be supposed that much distress would ensue from the use of the latter drug, but with care it can be borne. Of course, it is not allowed to remain in the bladder, which is even washed out with water afterward. In a case of severe hæmaturia, with a large quantity of mucus, and very frequent desire to pass urine, admitted under me at Guy's, I tried gallic acid without success. One part of tincture

of muriate of iron, diluted with nine parts of water, was then injected into the bladder, using a quantity at each time sufficient to well fill the bladder. It was allowed to pass away through the catheter. The bladder was then washed out, and a dose of morphia left behind. This was painful at first, but it appeared not to have been much more so than the ordinary pain. This was continued some time, with a slow but ultimately decided improvement of all the symptoms. At first probably a tablespoonful of blood passed daily, but when I last saw her there was none, though still some mucus. She left the hospital before she was quite cured, and the symptoms somewhat returned. However, upon readmission, she was again treated in the same way, and left quite free from cystitis. I was fearful, at first, that she had villous disease of the bladder, which is accompanied by much hæmorrhage. It was curious that upon one occasion, eight grains of morphia, by mistake instead of one, were injected after the iron had been used. The effect was very marked, but not enough to give rise to anxiety. How long it remained in the bladder did not appear. However, she was very much improved after this, and it seemed to have been for some reason decidedly beneficial. Nitrate of silver solution—thirty grains to the ounce as a maximum—may also be used in the chronic forms. It is best to wash out with water first, even in those cases which have not much mucus, otherwise the saline ingredients decompose the nitrate of silver, and it loses much of its power. This will, of course, to a certain extent, always be the case. I have used thirty grains without any severe pain, and with much diminution of the distress, after the first pain of the application had subsided. As with the tincture of muriate of iron, it should be used in plenty, and only for a short time, the bladder being washed out after, for the first or second time." Sir Henry Thompson has likewise recommended the injection of a weak solution of carbolic acid, in cases of chronic cystitis.

By the persevering use of these remedies, in the simpler forms of cystitis, the more acute symptoms will speedily subside, but, as regards the irritability of the bladder, which often succeeds this, we must for some time continue the use of the morphia every day, or as frequently as seems necessary. The general treatment must much depend upon the original cause. Opiates form the most reliable remedies: decoction of pareira; with either acids or alkalis, according as it is desired to check the abnormal state of the

urine. In some of the milder cases the vegetable astringents, as uva ursi and gallic acid, do good; in others, the tincture of muriate of iron, with tincture of opium. The urine should, of course, be examined, for its constituents may direct treatment, though I do not believe that the phosphates so frequently found always indicate a morbid condition of the blood. The superabundant vesical mucus in the urine acts as a ferment, it decomposes the urea into carbonate of ammonia, renders it alkaline, and phosphates of lime and ammoniaco-magnesian phosphates are deposited as well as insoluble carbonates. However low the patients may be reduced by chronic uterine disease, the urine does not deposit phosphates, unless there be a superabundant quantity of mucous secretion. When, in the course of uterine disease, urates are found in the urine, they are the result of fever, and mucus is not abundant. Sesquichloride of iron is very useful in cases of chronic irritability of the bladder, and has even been looked upon by some practitioners as exerting a specific influence on the genito-urinary mucous membrane, and the internal exhibition of sulphite of soda has been lately recommended to purify foul urine. Suppositories of opium or belladonna, either vaginal or rectal, are then invaluable, and, when the urine cannot be passed, I have given with advantage ergot of rye, in five-grain doses, every third or fourth hour, also small quantities of nux vomica or strychnia.

Cystitis is sometimes caused by pelvic abscess, by pelvi-peritonitis, by ovarian or fibrous tumors of the womb, and it merges in the general wreck of cancer. When the womb is at the vulva, it entails vesical tenesmus and a difficulty of passing urine and fæces; if it hangs below the vulva, it generally drags the bladder from its normal situation, thus inducing cystocele. Situated at the upper and anterior portion of the pendent mass, the bladder is liable to be wounded, and it is still more liable to become inflamed, owing to the stagnation of urine, sometimes causing calculus and frequently excoriation of the nates. In a similar manner the anterior portion of the rectum may be drawn into the tumor, and the inflammation of these cavities often causes the chief misery of procidentia; hence it will be evident that cystocele is to be cured by treating the main complaint. It will be, moreover, useful to sound the bladder frequently, and for this purpose the male catheter, or a small gum elastic one with stilet, should be introduced so that its concavity may be directed forward, the stilet being withdrawn as

the catheter passes upward. In some of these distressing cases I have given great relief by carefully washing out the bladder with a solution of morphia.

MAMMARY COMPLICATIONS.—Though, in women, the breasts are far removed from the womb, they are so closely allied to it, and participate so largely in the venereal orgasm, that their pathological relationship might be inferred. More or less intense pain of the breasts is a frequent complication of uterine inflammation, more particularly when the body of the womb is affected; occasionally mammary tenesmus is felt, or the breasts ache, burn, or are swollen, sometimes secreting mucus or a milky fluid, and repeatedly discharging a muco-lacteal secretion at the menstrual periods. In one case the breasts were so enormously swollen, hot, tense, and glistening, that I feared abscesses, particularly in the right breast, where there had been one fifteen years before, and in a single lady, thirty years of age, suffering from an inflamed retroflexed womb, the left breast frequently discharged from the nipple a glutinous fluid, sometimes tinged with blood. The left breast did not differ from the right, and both were cool and flabby. A clergyman's wife, at the change of life, now under treatment, has frequently, every month, a considerable amount of exudation of reddish water from both nipples, lasting several days. As there is no pain or swelling, she only knows of it by the appearance of her linen. The avoidance of pressure from ill-made stays, the application of cotton wool to the breasts, and anointing them with camphorated liniment, will be found beneficial: but the most powerful remedy is belladonna, and, the best way of using it is, to let the patient freely apply glycerine ointment, containing three or four grains of sulphate of atropia to the ounce; with this may be associated the internal exhibition of iodide of potassium. A more distressing evidence of uterine reaction on the breast is shown by the manner in which chronic uterine inflammation will sometimes aggravate mammary tumors, cancerous, fibroid, or adenoid. I never met with a more distressing case of this kind than in a patient twenty-five years old, who is stout, but cachectic, the last child of a very nervous mother and of a very gouty father. When I was first consulted, fifteen years ago, it was on account of a tumor, the size of a pigeon's egg, in the right breast, which was first perceived soon after menstruation was established, which has always been too painful, scanty, accompanied by great pain and

by some swelling of the breast during the previous week. When about twenty, Mr. Bagshaw, of Bath, attended her for ulceration of the womb, and since that the womb and ovaries have never been free from pain, irritation, or congestion; when not acutely inflamed, the breasts suffered more, and the tumor became for a time larger, whenever the womb was worse. After remaining comparatively dormant for twelve years, without appreciable cause, inflammation set in, the tumor became very red, hot, voluminous, and was removed by Sir W. Fergusson in 1866. The recovery was good; but six months after menstruation ceased, the womb became very much more painful, and a second lump appeared in the place of the former, which rapidly grew to the weight of twelve pounds, when it was removed in 1867.

GASTRO-INTESTINAL DISEASE.—The frequency and persistency of the gastro-intestinal complications of uterine disease are well explained by the close anatomical connections of the reproductive and digestive organs, and by their intimate physiological relations—relations so intimate that, as I have demonstrated in another work, menstruation is almost always accompanied by some disturbance of the bowels, which are usually relaxed. The complications that I shall pass in review are, Dyspepsia, Congestion of the Liver and Biliousness, Nausea and Vomiting, Intestinal Irritation and Enteritis, and Diseases of the Rectum; and, although I am obliged to take them separately, they often alternate or are combined in the same individual.

1. **DYSPEPSIA.**—Whether the body or neck of the womb be inflamed, this condition seldom continues long without compromising the digestive functions, and it would take a volume to describe the varieties of gastric and intestinal disturbance that may arise; their treatment must be sought for in the chapters on Dietetics and Tonics; I again, however, take the opportunity of impressing upon young practitioners the almost utter impossibility of curing the confirmed dyspepsia of uterine disease by high living, or by tonic medicines, for in some of the worst cases of chronic uterine inflammation the mildest tonic acts as poison.

2. **CONGESTION OF THE LIVER.**—This is a frequent accompaniment of disordered menstruation and disease of the womb. Dr. Butler Lane has well explained that the reaction of these organs, one on the other, depends less on their nervous sympathy than on the fact that the veins of the uterus communicate with the portal

system, so that a sudden check of the uterine flow may congest the liver and spleen. I think Dr. B. Lane has clearly made out that this compensating interchange between the liver and the womb explains some of the phenomena of amenorrhœa, of chlorosis, of the change of life, and of uterine disease, as met with at home or in India.

In the lady, whose case I last mentioned, the very painful and scanty menstruation of a congested womb was frequently accompanied by bilious vomiting ten or twelve times a day, and by the passing of bilious motions. In another lady, whom I cured of a severe inflammatory uterine affection, which had lasted ten years, there was an enormous outpouring of green bile about every month, but this never occurred after the cure of the uterine disease. This position is well brought out by the following case: M. H—, a dispensary patient, aged nineteen, with dark hair, swarthy complexion, and a mouth often looking as if it had been painted with yellow. She was eminently bilious, for, to use her own expression, "If any thing were to upset me, I should go on and be sick for two days." Vomiting, during menstruation, lasted from one to three days, with slight intervals of respite, and with just as much bile in the last as in the first vomiting. The sickness was accompanied by violent pain in the sacrum. Vomiting was not equally severe at every menstrual period, though it was always worse, if, during the previous week, the patient "felt the bile rising in the mouth." Sickness was often the initial symptom of menstruation; for she was repeatedly awoke at night by a violent fit of sickness, and then the menstrual flow would make its appearance. This incessant vomiting produced so much debility that, during the four or five days following menstruation, she was quite unfit for work. She either could not sleep during this period, or felt inclined to sleep night and day. The menstrual flow was often retarded and scanty. I gave this patient diluted nitro-muriatic acid in an infusion of cascarrilla before meals; ten grains of carbonate of soda after meals, advising three grains of calomel and a black draught a few days before menstruating. I, moreover, prescribed two grains of acetate of morphia with two drachms of chloric ether, in a six-ounce mixture, telling her to take a tablespoonful in an effervescing draught after being sick, and to repeat the dose after every fit of vomiting, until she had finished the medicine. This treatment was, to a certain extent, effectual, when,

after a few months, severe abdominal pain, back pain, a brown discharge, nausea, vomiting, and vulvitis occurred; and, on making an examination, I found the neck of the womb sound, but its body very painful, and slight pressure caused retching and hysterics. Thus it appeared that, instead of the sickness being merely associated with menstruation, this process caused the sickness, by every month rendering more acute the chronic inflammation of the body of the womb. I ordered mercurial and belladonna ointment to be rubbed freely over the abdomen; advised acetate-of-lead injections, aloes-and-myrrh pills to be taken at times, and citrate of iron in effervescing draughts. Great improvement followed this plan of treatment. The morphia was not, however, uniformly effectual: thus, on rare occasions, the whole mixture would not prevent sickness, though it usually made it cease at the end of twenty-four hours. The two grains of morphia were sometimes taken in five hours without producing sleep; at others, the patient would take the mixture, then sleep, wake to vomit, take the mixture again, sleep, and so on, until the stock was exhausted or the sickness conquered. If the opiate procured two hours of *continued* sleep, there would be free perspiration, more abundant menstrual flow, and sickness would be lulled for a few hours. Even when the sickness was not speedily stopped, the remedy abated the tormenting pain in the sacrum. The opiate had another good effect—it enabled the patient to get to her work the day after the sickness subsided, instead of remaining helpless for a few days after every menstrual period. After the first year of this treatment, a few doses of the morphia were sufficient to check the sickness.

The pertinacity of congestion of the liver at the cessation of the monthly flow is very great, and is graphically shown in some of the cases that I have published in my work “On the Change of Life;” this assertion is confirmed by Fothergill, by Sir C. Mansfield Clarke, and by Dr. Evory Kennedy, who remarks, “that an engorged state of the uterus is very liable to alternate with, translate to, or coexist with congestion of the liver and the spleen.” Sir J. Simpson has also well said, “that in some cases, to cure the womb, seems almost to rectify the coexistent, and perhaps, resultant hepatic derangement; while, in others, we are unable to correct internal diseases till we have used appropriate means to modify and correct the attendant hepatic disorders.”

TREATMENT.—Until fashion absolutely forbids giving mercury,

we should let our patients have the benefit of so valuable a remedy, whenever congestion of the liver evidently complicates diseased menstruation or uterine affections. This does not suddenly cure uterine affections or check flooding, as far as my experience goes, but it relieves the womb, and renders it more amenable to other measures. Salines and cooling purgatives are called for, and their action will be assisted by temperance and exercise. Taraxacum is a good remedy, but, like Dr. Eastlake, I have noted that podophyllin has an emmenagogue tendency, so it will not be always commendable. Dr. Wright has lately highly praised hydrochlorate of ammonia. This remedy has been long given by the Germans as a *deobstruent*, and Dr. Atlee gives it, for this purpose, in cases of uterine fibroids; I have given it with advantage in sciatica; but Dr. Wright states "that it is immediately absorbed into the portal veinules, that ramify beneath the surface of the digestive tract, and is, therefore, an important agent for the relief of hepatic portal congestion." Of this remedy I have little experience, but I must call attention to another, which has fallen into disrepute.

EMETICS.—Nobody now gives emetics, except to remove from the stomach poison or undigested food. I have seen them occasionally recommended in medical works, but, since I have been practising in London, I do not remember having met with a patient who had ever been ordered one; emetics would, nevertheless, be invaluable in many of the cases of confirmed biliousness with foul tongue, nausea, and a congested liver. No doubt this state can be rectified by repeated doses of calomel or blue pill, combined with brisk purgatives, salines, temperance, and exercise, but one emetic would often cut short the complaint, and render unnecessary the exhibition of mercury. An emetic is likewise serviceable, as a preface to further treatment, when the stomach is full of ropy mucus, or of corrosively acid secretions. Vomiting is so evidently a part of Nature's plan of treating some complaints, and it so seldom damages pregnant women, that I am at a loss to understand why emetics went out of fashion. They were given too often in the latter end of the last century, but if Stoll somewhat exaggerated the action of the liver in pathology, this does not do away with the fact that Nature will not be bullied, and that she will take a long time to evacuate by the bowels what she could speedily eject from the stomach.

When women are delicate, 25 grains of ipecacuanha in a little

cold water should be given two hours after a light meal. Those whose strength has not been reduced may have one grain of tartar-emetic and twenty of ipecacuanha, in a tumbler of water, to be taken in three times, at five minutes' interval, upon an empty stomach; copious draughts of tepid water being taken when vomiting sets in, to render it less painful. While thus treating hepatic derangement constitutionally, it may be advisable, if there be much uterine congestion and irritation, to apply a few leeches to the womb or to the perinæum once, or oftener, at increasingly prolonged intervals.

3. NAUSEA AND VOMITING.—Amongst the uncommon symptoms of uterine inflammation, none are so distressing as long-continued nausea, even if unaccompanied by repeated vomiting. It lowers the strength by depriving patients of their usual amount of food, and produces a permanent state of nervous irritability and despondency. Those who can bear pain with unflinching fortitude will burst into tears, while asking for some new remedy for this distressing ailment, which has even sometimes caused patients to let their thoughts dwell on suicide. I agree with Stolz and Dr. F. Churchill, that the vomiting of pregnancy much oftener leads to a fatal result than is generally supposed, and, in the course of his practice, P. Dubois states having met with twenty fatal cases of vomiting in pregnant women. Sickness, as a symptom in uterine pathology, is the consequence of its frequent association with many acts of the function of generation. It will suffice to mention that sickness is the most common sign of pregnancy; that it occasionally occurs during sexual congress, as a sign of conception, in the midst of parturition, and during menstruation. Furred tongue, flatulence, acidity, and slight nausea, are the frequent accompaniments of menstruation; and, on extensive inquiry, I find that vomiting accompanies first menstruation in about nine per cent. of cases, that it is a symptom of fully-established menstruation in seven per cent., and of its cessation in twelve per cent.; it being clearly understood that, in these cases, I was unable to detect disease in the ovario-uterine organs, and the sickness was therefore referred to some intangible state of the nervous system. Mucus, acid mucus, or mucus mixed with bile, is brought up, and vomiting may be repeated during the whole menstrual period, but it generally takes place during only the first part, and early in the day. At cessation vomiting is generally associated with biliary derangement of an obstinate character. If sickness be very severe and

long-continued during menstruation, uterine disease may be suspected, as in a case related at page 256. Sickness may only accompany menstruation for a certain number of months, or years, but I have known it last from the date of early marriage until cessation, and to recur from the first to the last menstruation. A preponderance of the biliary apparatus is certainly a predisposing cause to sickness at menstruation, but in some of the worst cases I have attended, there was no sign of biliousness; the tongue was clean, and no bile vomited, so the sickness could only be considered as a reflex symptom. It is almost needless to remind practitioners that sickness frequently accompanies amenorrhœa, with or without chlorosis; menorrhagia and dysmenorrhœa, whether the stricture of the cervix be organic or spasmodic.

Vomiting accompanying *diseased menstruation*, is frequently severe and long continued, and resembles so much the sickness attending inflammatory affections of the womb that I shall treat of both at the same time. Sickness may accompany all uterine affections, and is not caused by the severity of the affection, or by the size of an organic growth. There is often none with cancer of the womb, or with large fibrous tumors of this organ, while it may attend small fibroid to a distressing degree. This symptom is rare in the inflammatory diseases of the mucous membrane, lining the neck of the womb whether it be excoriated or ulcerated; while, on the contrary, it is frequently observed whenever there is disease of the body of the womb, which is, as it were, the stomach of the reproductive intestinal canal. Thus, out of fifteen patients who suffered intensely from nausea and vomiting, I attributed it to chronic inflammation of the body of the womb in nine cases, in which there was an enlarged womb, the seat of constant pain, increased by the patient's movements and by pressure of the finger, with brown or purulent discharge before or after menstruation, which was either too abundant or scanty, and of a brown or green color; the neck of the womb, the os uteri, and the vagina, being either sound or not sufficiently diseased to account for these symptoms. In one case there was an obstinate inflammatory state of the lining membrane of the neck of the womb, with purulent discharge, although ulceration of the neck of the womb had been cured. In another, a moderate-sized fibrous tumor of the womb, at the change of life, was the cause of vomiting. In another, most distressing nausea and vomiting were evidently associated with

relapsing inflammation of the neck of the womb, which was only a part and portion of a general cachectic condition. In another, sickness was associated with hysteralgia, enteralgia, and other anomalous nervous symptoms. The slightest application of the finger to the os uteri is sure to cause retching in a lady, who has had a constitutional tendency to vomiting all her life. Again, nausea is distressing to a highly nervous lady, in whom the generative organs are so strangely constituted that sexual intercourse, seldom repeated, during two months after marriage, caused internal metritis, and a state of irritability of the genital organs which lasted two years, puzzled several other practitioners besides myself, and is now slowly subsiding. Vomiting is said to have been epidemic in 1859, in Brazil, where an unusual number of pregnant women suffered severely, and some died. Vomiting, or nausea, may be expected whenever the peritoneum is implicated, when morbid ovulation causes pelvi-peritonitis, in peri-uterine phlegmon, in hæmatocele, and more so in the menorrhagic variety, than when it is caused by menstrual retention.

Nausea is much more frequent than vomiting. The patients loathe food, even in idea, and refuse it unless it be forced upon them. It is most troublesome in the morning, often going off after breakfast or dinner, and is increased by worry, excitement, the fatigue of dressing, or by moving about. Mrs. A—— complains of habitual nausea; worry, even taking a little more exertion than usual, will bring on vomiting. Lying on her back increases the nausea; she sleeps on her side, and if perchance she turns on her back, vomiting will awaken her. In this case, nausea is always worse a week before the menstrual period, and much better the week after.

I have described the more frequent forms of the symptoms; but, in two cases, vomiting was incessant, not only of mucus, but of almost all the food taken, reducing the patient to a perfect skeleton. In a patient of Sir Charles Locock, whom I occasionally attended when he was out of town, sickness lasted for eight years, with scanty intermission, ultimately causing death from exhaustion. In this case I was induced, like other practitioners, to attribute the sickness, which came on suddenly in the midst of good health, to a small fibrous tumor developed in the body of the womb, although Sir C. Locock considered it doubtful, as the patient was a confirmed opium-eater. In a case of internal metritis,

sickness occurred only at the menstrual periods for a few hours, or for one, two, or even three days, during which time the patient continued vomiting, with only five or ten minutes' interval of repose or sleep. Sickness accompanying uterine inflammation is a nervous symptom, often independent of biliousness or dyspepsia, to be explained by the mutual dependence of both the womb and the stomach on the same system of nerves. There was nothing unusual about the tongue in nine out of the fifteen patients. In two it was cleaner than usual. The tongue was very much furred in a patient suffering from enteralgia. Five suffered occasionally from heartburn or acidity, two were decidedly bilious, having had jaundice several times, and one was subject to the outpouring of a large quantity of bile once a month, or even more frequently; but in all these patients sickness was often distressing when they were neither dyspeptic nor bilious, and those who had suffered most from sickness in pregnancy were most affected by it when subject to uterine affections. It is wonderful how long some women bear sickness without seeming much the worse for it. The daughter of a physician, now under my care, vomited very frequently, every day, for sixteen months, during part of which time she was under treatment for ulceration of the womb. Very little food was retained, and only a wineglassful of urine was said to have been passed in the course of the day, nevertheless she grew very stout. On leaving Bath for Weston-super-Mare, vomiting abated, but nausea and retching were still habitual. In other instances I have noticed the good results of change of residence on obstinate vomiting.

Having thus sketched the pathology of sickness caused by uterine affections and diseased menstruation, I now come to its treatment. The received adage, "*sublatâ causâ tollitur effectus*," applies with full force, and the essential point, in the treatment of sickness dependent on uterine affections, is to cure them; but this is often a tedious process, and, in the mean time, the patient anxiously calls for speedy relief from sickness. Sometimes the means used for the one end may fulfil the other; thus, I have repeatedly observed that leeches, applied to the neck of the womb for the cure of its inflammation, produced a marked decrease of nausea or sickness; the same has occurred to my friend Dr. Smith, of Weymouth; and Negrier reports favorably of this practice when vomiting during pregnancy is accompanied by inflammation of the neck of the womb. I have seen sickness also suddenly

stopped by the application of potassa fusa cum calce to the neck of the womb, and I have repeatedly found that the simple application of a solution of nitrate of silver, to the congested mucous membrane covering an inflamed womb, checked vomiting when medicines were of no avail. The replacement of an anteverted womb has cured vomiting, and Prof. G. Braun has published a case, in which the replacement of a retroverted pregnant womb was immediately followed by the cessation of vomiting, which had resisted all remedies. Another indication is, to assuage uterine pain by the application of opiates to the womb by means of vaginal injections and suppositories. After giving these remedies a fair trial, if unsuccessful, they should be discontinued; surgical treatment should be postponed; and even injections and enemata be avoided as much as possible. The continuance of a moderate amount of habitual nausea need not, however, interfere with the surgical treatment of uterine disease.

Minor remedies are often sufficient to afford relief, such as effervescing drinks, seltzer or soda-water, ginger-beer, champagne, alone or with milk in equal proportions, and saline draughts, all the more effective for being iced; ice-pills, or very hot drinks, brandy and other cordials, have the desired effect with some patients, and when these fail, after assuring myself calomel is not required, I give morphia, and sometimes a small dose will have the desired effect, as in the case of a lady, who was forty-seven years of age when she first consulted me. She married at thirty, and immediately after, and ever since, the menstrual periods have been accompanied by vomiting. Headache first appeared, and then sickness, which was frequent during twelve or thirteen hours, whether the menstrual flow was scanty or profuse. There was no uterine disease, and as many of the remedies, just enumerated, had been fruitlessly tried, I gave one grain of acetate of morphia in a six-ounce mixture, directing two tablespoonfuls to be taken in an effervescing draught, made with citric acid and carbonate of potash, when sickness set in, and to repeat the dose every hour. The patient found two or three doses of this medicine sufficient to stop the sickness, at menstrual periods, until the change of life took place, two years afterward.

In another case, the patient is frequently able to control vomiting by taking an occasional dessert-spoonful of a four-ounce mixture containing one grain of acetate of morphia with twenty minims

of diluted hydrocyanic acid, in some of Sir James Murray's fluid magnesia. In the case previously described, success was partly due to the opiates given by the rectum, and, whenever pain is referred to the womb, it is well to try and subdue it by opiates, applied in various ways in its vicinity, as by liniments and poultices, and to exhibit the same remedies in suppositories, to be introduced into the rectum. I may here mention that sea-sickness can sometimes be checked by opiate suppositories, or by injecting into the rectum from fifteen to twenty drops of laudanum on going to sea; with the same intention, it has been long ago recommended to swallow thirty drops of laudanum before going on board. I have checked sickness by the application of a grain of acetate of morphia to the neck of the womb, but, in one case, three such doses, thus applied every third day, turned nausea into vomiting, which is the well-known result of all opiates in some constitutions. The extract of belladonna, externally applied, or made into vaginal suppositories, and internally exhibited until the first symptoms of poisoning show themselves, will sometimes be found useful.

When morphia fails, I have often found calomel and opium check vomiting, even when there was no sign of biliary congestion; and, when there is habitual nausea without signs of biliousness, it is well to give an occasional dose of calomel or blue pill, at prolonged intervals. I occasionally have recourse to the sedative action of calomel, giving ten or fifteen grains. In two patients, this invariably checks vomiting that has lasted for hours, and I learn from Sir C. Locock that he has often adopted this plan with like success. Creasote, made into pills with prepared chalk, will be found useful when the gastric secretions have a putrid tendency; but I have never found it stop troublesome vomiting. Oxalate of cerium is an uncertain remedy; it often does no good, but I have, occasionally, found it invaluable to check the reflex sickness of uterine disease. I give two grains every two or three hours. In some patients sickness will be stopped by sal-volatile, camphor-julep, bitters and astringents, such as calumba, rhatany, tannin. I have given strychnia with advantage, a quarter of a grain with six drachms of tincture of ginger and four ounces of distilled water; a teaspoonful to be taken every one or two hours. I do not know whether salicine deserves its reputation, but I have tried, without advantage, the spirit of walnuts, as prepared by Messrs. Corbyn. I have known patients relieved by taking, repeatedly, about as

much horse-radish, scraped and moistened with vinegar, as would cover a fourpenny piece.

With regard to the diet of those subject to sickness, the first point is to let them have any thing they fancy, and at whatever hour they like. Every half hour it is well to give a teaspoonful of some nutritious food, such as milk, with rum or brandy, savory jelly, or an occasional biscuit, plain, sweet, or flavored with ginger. Five drops or more of Battley's solution of opium may be taken just before meals. Many, who suffer from long-continued nausea, would never eat if left to themselves, so their friends should take them, at unexpected times, a few mouthfuls of something tempting. Such patients should be treated like pregnant women, and made to eat; and they should take a cup of tea or milk to which a teaspoonful of brandy or rum has been added, as soon as possible after awaking, and before getting out of bed. It restores the tone of the stomach, and stimulates the ganglionic centres.

Like other practitioners, I have seen a blister applied to the pit of the stomach suddenly stop vomiting or nausea, and permit patients to take breakfast who had not done so for the previous fortnight. In one case, the vomiting only stopped for two days, although the blister was kept open for eight. The surface of the blister may be dressed every day, with a grain of acetate of morphia, until the wound begins to heal. Another means of checking sickness is to cauterize the pit of the stomach with the *marteau de Mayor*, or by a silver tablespoon dipped in boiling water. This generally causes a thin eschar to fall off in about a fortnight, and irritation is thus kept up for a month or six weeks. Faradization of the epigastric region has been found successful in a certain number of obstinate cases, the moistened conductors being applied to the epigastrium for a quarter of an hour before meals, and for the space of five minutes in the course of the repast, a feeble current being first applied, and its ~~intensity~~ intensity gradually increased. On several occasions, after having ineffectually tried most of the remedies already mentioned, I have seen vomiting suddenly stopped by the application of six leeches to the pit of the stomach, although there was no sign of inflammation there, and although the patient's debility was such as not to justify the loss of blood. When other remedies fail, as in the following case, I have greatly relieved vomiting by establishing an issue at the pit of the stomach.

Mrs. S—, aged fifty-two, tall, thin, married many years, but

never conceived. She enjoyed tolerable health until some years ago, when Dr. Bennet treated her for an inflammatory affection of the neck of the womb. This was cured, but the patient did not gain strength, and it became apparent that the body of the womb was inflamed, and that there was also a little polypoid growth springing from the vagina so near the cervix that I at first thought it formed part of it. In the midst of a relapse of chronic internal metritis, vomiting supervened and continued for five months; it should be noted that, even when in excellent health, not only riding with her back to the horses, but boating on the smoothest water, and any fatigue or worry, would invariably bring on vomiting. Change of air had no effect on the sickness, and when I first attended her, in 1859, I successively tried all the means of averting it which I have enumerated, as well as creasote, pepsine, given internally, and chloroform, externally applied to the pit of the stomach. In this case there was almost complete want of sleep, so, as there was a fair ground for hoping that sleep might at least abate the vomiting, I tried all preparations of opium, but none would agree; small doses had no effect, nor had even two grains of acetate of morphia left in contact with the neck of the womb. Indian hemp sometimes soothed, but produced no sleep. Every meal was vomited; doubtless a portion was digested, though the patient thought all the food was rejected. At all events, from want of sleep and food, symptoms of inanition came on; and, during the winter, the patient was half frozen, and only kept alive with brandy, Hollands, or Maraschino; more than three pints of some spirit being taken in the course of the week, a teaspoonful at a time, without affecting the head, although, when in health, the patient habitually took nothing but water. In July, 1861, the uterine affection was no longer painful, but the sickness was as bad as usual, and seemed caused by some morbid state of the ganglionic nerves, for there was very intense and ~~had~~^{was} abdominal pulsation. One day, when the patient was at the worst, I told her I should like to try an issue to the pit of the stomach; she then drew my attention to a little pimple at the lower end of the sternum, which had annoyed her for the last few days. This pimple, which was the result of a blister that had not risen, was poulticed, but, in a few days, it became a boil, or rather an abscess, more than two inches in diameter, and, as it formed between the sternum and the skin of a much emaciated frame, the pain was most acute. As the abscess in-

creased, more and more food was retained: subsequently, after two violent fits of retching, without bringing up any thing, the vomiting stopped altogether, after having lasted two years, and the patient was able to digest roast beef and other articles of ordinary diet. When vomiting ceased, sleep returned at night, and the patient had refreshing naps of from two to three hours during the day. Moreover, an unusually dry skin broke out into abundant perspiration. For a fortnight, while the abscess discharged freely, there was no sickness, but, as the discharge diminished, food was occasionally rejected; nevertheless, the patient rapidly gained flesh and strength, so that in a month after the cessation of the vomiting she went out in a Bath chair. It was evident that the sickness would return when the wound healed, and I urged converting it into an issue, ineffectually however, and what I anticipated occurred. In August a fixed abdominal pain rendered it necessary to apply a blister, and, during the three days it remained open, all the food was retained. This made the patient consent to have an issue at the pit of the stomach. I applied caustic potash, and the sickness abated when the eschar became loose and a discharge was induced. In September the patient was sufficiently well to go to Italy, whence she returned in 1862, her nervous system being so much strengthened that hysterical attacks had very seldom occurred and were slighter. For two years, while the issue continued to discharge, the patient often passed several days without bringing up any food, and only brought up one out of three meals on other days. As soon as the issue was allowed to heal, vomiting became more frequent, but it gradually ceased when menstruation ceased, and was replaced by distressing attacks of cerebral neuralgia, that have resisted my remedies and those suggested by my friend Dr. Russell Reynolds.

I established the issue by means of caustic potash instead of by the simpler process of an incision, because there is often a therapeutical efficacy in pain itself. It was the long, agonizing pain of the abscess which, in this case, worked so wonderful a change in the system, causing a dry skin to pour out perspiration, the food to be retained after two years' impossibility of doing so, and an unappeasable nervous system to be once more soothed by long-continued sleep. In another case of chronic inflammation of the body of the womb, the oft-repeated vomiting seems to alleviate the still more distressing abdominal pains, leading me to think that vomit-

ing, attendant on uterine disease, is a symptom sometimes to be respected, so I have not sought to establish an issue in this case. All other remedies failing, Moscati applied the actual cautery to the pit of the stomach; for several hours there was no vomiting, and the patient was cured by the subsequent suppuration. Dr. Rogers mentions having applied a moxa to the epigastrium with equally good effects, and Ferrand met with similar success from moxas applied to the pit of the stomach when pregnancy caused vomiting. In another case of obstinate sickness during menstruation, attended by myself, there was no vomiting so long as an axillary abscess was in full suppuration.

ENTERITIS AND INTESTINAL IRRITABILITY.—Without being aware of Dr. Butler Lane's researches, and operating on seven hundred and fifty-eight cases, I found that the bowels remained undisturbed, at the menstrual periods, in one hundred and ninety-seven women, that they were confined in one hundred and eighty-five, and relaxed in three hundred and seventy-six. From this frequency of diarrhœa during healthy menstruation, it might have been inferred that severe or prolonged uterine inflammation would cause intestinal irritation, which seldom, however, assumes an aggravated form, at least in a temperate climate. Sometimes the patient complains of intestinal uneasiness, a tendency to constipation, intestinal flatulence, or of the bowels being "all of a work." If the patient be stout, this may obscure the diagnosis, as in the wife of a naval officer, in whom these symptoms were caused by a small amount of ulceration of the neck of the womb. On first seeing her, I was afraid there might be some abdominal tumor in the background, so large and hard was the abdomen, but I applied the solid nitrate of silver freely, advised acetate-of-lead injections, a warm purgative every week, tonics, and rubbing the abdomen with camphorated oil; and when, after a month, she returned to town, the abdomen had much decreased, and the other symptoms abated.

Chronic inflammation of the body of the womb generally causes irritation of the lower bowel, which is evidenced by a considerable increase of mucus accompanying the motions, sometimes, by small quantities of blood, at others, by frequent tenesmic diarrhœa; or, by constipation, depending on a want of power to expel the feculent matter, the result of paralysis of the rectum, or upon the constriction of that portion of the intestine—a mechanical effect of its pressure by an enlarged retroverted womb. Inflammation of

the colon depends more on the patient's peculiarity of constitution than on the intensity of the uterine inflammation. Thus, a young lady, who had suffered several years from chronic inflammation of the womb, had diarrhœa during a relapse of the complaint. It lasted for several months, resisted treatment, but yielded by degrees to opiates given by the rectum. For the last ten years, another patient always passes large quantities of mucus, with or without feculent matter; the bowels generally feel irritable: constipation is the rule, but diarrhœa occasionally occurs. Since I drew attention to the subject, my statements have been confirmed by Scanzoni and Aran: Nonat has even considered it a special form of enteritis, and Dr. Bennet has stated, that my researches explained the coincidence of persistence of diarrhœa with severe inflammation of the neck of the womb, leading him often to infer the latter from the persistence of the former. The application of the acid nitrate of mercury to the lining membrane of the cervix caused dysentery in a patient, and I have known blood passed by the bowels daily, for years, in conjunction with uterine disease. In India and other warm climates, dysentery is a very frequent complication of uterine disease, and of the puerperal state, its persistence rendering a return to Europe incumbent. All remedies will be ineffectual unless the ruling complaint be cured, and all the well-known remedies may be tried, but none will be found so effectual as morphia. The solution of morphia, in doses of twenty or thirty drops, is the only remedy that checks the diarrhœa in the case of a lady, in whom it has lasted ten years, since her subjection to uterine irritation or inflammation. She is obliged to measure the remedy with great nicety, for, if she does not take enough of it, diarrhœa prostrates her strength, and, if she takes too much, it causes a most distressing intestinal irritation. A lady, from whom an adenoid tumor has been twice removed, has, during the last fifteen years, suffered fearfully from inflammation of the colon, and for the last four months has passed from fifteen to twenty motions a day, notwithstanding well-known remedies. A grain of opium every fourth hour, a grain of morphia every fourth hour, with starch injections and laudanum, have done no good; combining the morphia with four grains of blue pill, given at night, made her worse. One grain of morphia and opium, every fourth hour, did no good. This case is very uncommon, but it could be substantiated by Dr. Vinen, who has attended her in my absence from town.

DISEASES OF THE RECTUM.—These greatly aggravate the patient's sufferings; much more so than those of the bladder, and often render connection intolerable. They either depend on functional disturbance, on hyperæmia and inflammation, or on the partial dislocation of the rectum, as in rectocele.

IRRITABILITY OF THE RECTUM.—I am occasionally consulted by patients who only complain of a frequent, dull, aching pain in the rectum and anus, which is increased by standing and sitting; some have been solely treated for disease of the rectum. On inquiry, I find that there are also back pain and uterine discharge, and on examination the neck of the womb is situated as it should be, but inflamed; surgical treatment soon causes all these symptoms of uterine disease to disappear, although, for a time, the patient is liable to their return. I then advise belladonna and henbane suppositories to be introduced into the rectum at night. The pressure of a displaced womb on the bowel will increase the symptoms, but is not indispensable for their production. Sir C. M. Clarke observes that a discharge of mucus from the vagina is a concomitant symptom of piles, for the internal iliac artery supplies both the hæmorrhoidal vessels and those which supply the vagina with blood, and it will be found difficult to restrain this discharge while the hæmorrhoidal tumors continue. The reverse is equally true; for I have frequently seen hyperæmia of the rectum, and hæmorrhoids, caused by chronic inflammation of the neck of the womb, and kept up by it, particularly if the retroverted or flexed womb pressed on the rectum; by curing the uterine disease, the tendency to hæmorrhoids disappeared; and this accords with the experience of others, who have seen uterine inflammation originate and keep up an habitual congestion of the rectum, and occasionally prolapsus ani. With regard to the treatment of hæmorrhoidal affections, in such cases, it cannot be successful without treatment of the ruling uterine disease, for they aggravate each other: and should blood be lost both from the womb and hæmorrhoids, as sometimes occurs at the menstrual periods, the strength of the patient is greatly impaired. The cooling injections required for uterine inflammation also keep down hyperæmic tendencies of the rectum, and the same object will be promoted by the injection of half a pint of nearly cold water into the rectum twice a day, which will also be generally sufficient to relieve the bowels; but, if not, the mildest aperients should be tried, such as milk of sulphur, which I prefer,

though tamarind or senna electuary, Gregory's powder, castor-oil, and saline purgatives are likewise suitable. It is as well to avoid aloes; although, out of the many hundred cases in which I have given it, I have only once traced hæmorrhoids to its action, neither Schönbein nor Aran has mentioned them, as a result of treating amenorrhœa by strong aloetic enemata.

INFLAMMATION OF THE RECTUM.—Occasionally, those laboring under uterine inflammation really suffer likewise from inflammation of the rectum. The pain is sometimes exquisite, when the rectum is pressed by the finger introduced into the vagina; defecation is very painful and followed by tenesmus, continuing for hours; an examination of the rectum with the finger makes the patient scream, connection is intolerable, and she cannot sit without feeling great pain. A small quantity of mucus or a little pus oozes out of the rectum; the motions always contain mucus, and sometimes blood. This state improves by proper treatment, but, in some patients, never entirely disappears, and is aggravated by menstruation. In the wife of a clergyman, under treatment for chronic inflammation of both body and neck of a retroverted womb, this caused a hard swelling, about the size of a walnut, in the areolar tissue between the anus and the vulva; after giving great pain for a few days, the little abscess broke, and about a teaspoonful of matter came away by the anus. This has occurred five times, and always during menstruation. The finger can likewise feel the urethra, like a hard cord, twice the size of a goosequill. The pain is very much increased by walking, which also causes the sensation of a swelling and a difficulty of passing scalding urine. There is, also, the remnant of an irritable tumor of the meatus, and follicular inflammation of the mucous membrane of the mouth, the follicular eruption coming up, one crop after another, producing small ulcerations, with great pain and the inability of taking solid food—a singular instance of the proclivity to disease of several mucous membranes. The patients should be cautious in the use of enemata, and not inject more than half a pint of the blandest fluid. I have known patients made worse by injecting two pints at a time; salt water or soap-and-water is far too irritating. When inflammation is acute, I advise injections three times a day, to be made into the rectum, of half linseed-tea and half a strong decoction of poppy-heads; and a little later, with equal quantities of saturnine lotion, and decoction of poppy-heads. Various other injections

have been tried, to relieve the distressing symptoms; nothing succeeded so well, in one case, as tepid water, to cleanse the bowels, and then to inject half an ounce of the following solution: two ounces of warm thin starch, with two drachms of acetate-of-lead lotion and of tincture of henbane. In another distressing case, half an ounce of a solution of twenty grains of sulphate of zinc, with half a drachm of tragacanth emulsion, in one ounce of cherry-laurel water and five ounces of distilled water, was injected every morning, after the bowels had acted, and, at night, the patient introduced into the rectum a small quantity of an ointment, containing two grains of acetate of morphia and one of sulphate of atropia, a drachm of olive-oil, and an ounce of cacao-butter. Combined with other measures, these remedies were highly beneficial.

SEMI-PARALYSIS OF THE RECTUM.—This is not always the result of previous inflammation, and, although not painful, is a very annoying complication of long-standing uterine inflammation, occurring when patients have been obliged to keep very long in bed, and to take large doses of opium. The bowels, in these cases, seldom, if ever, act of themselves; purgatives bring the fæces to the rectum, but it has not contractile power enough to expel them, and there they would remain if their exit were not obtained by an injection. This is sometimes unsuccessful, and patients are obliged with their fingers to withdraw the scybala; for this reason, they live in dread of the day when it is necessary to take medicine. If the patient neglects herself, intestinal obstruction may arise, and it will be absolutely necessary to empty the rectum by the finger, or by means of the handle of a large spoon. In these cases various injections should be tried, such as those containing salad-oil, salt, or soap. If suppositories are required, they should be made of belladonna and henbane, which relax the bowels, rather than of opium, which confines them. Small doses of ergot of rye, nux vomica, or of both combined, have done me good service: they likewise help to restore tone to the muscular coat of the bladder, should it have lost its power.

RECTOCELE.—If the rectum be full of fæces, it feels like a tumor projecting from the posterior wall of the vagina; the diagnosis is clear, when the finger, after passing the sphincter, can easily make its way into the vaginal pouch. This vaginal malformation is the result of the over-distention of the vagina, by repeated child-bearing, and may be quite independent of uterine inflamma-

tion; but, as the completely prolapsed uterus may dislocate the bladder, it may do the same to the rectum, though not so completely, because the connections of the uterus with the rectum are not so intimate as with the bladder. The distending mass drags down the posterior wall of the vagina, forming a depression, increased by fecal accumulations, for, in such cases, the bowels are very imperfectly relieved; straining increases the prolapsus, and the patient is often condemned, at last, to have recourse to the fingers, as in partial paralysis of the rectum. For the treatment of this severe affection, I refer the reader to that of proidentia.

SPINAL CURVATURE.—I have just lost a patient, whose back has been broken in the literal sense of the word, by internal metritis, for the upper dorsal vertebræ formed a right angle with the lower and lumbar vertebræ. When thirty-one years of age, this unmarried lady, who had long suffered from chronic inflammation of the cervix, had so severe an attack of endo-metritis, that for three weeks she remained in a crouching position, day and night, with her face buried between her knees, with chance snatches of morphia sleep. When the ferocity of the pain subsided, it was still so severe that I could never get her to lie down in bed. She had been up and about in an invalid fashion for a considerable time, when, eighteen months after the attack of metritis, her mother called my attention to the projection of the third or fourth dorsal vertebra. As this increased, I took the advice of Mr. Bishop, who recommended the patient to lie constantly on a double-inclined plane, but as she would not submit to this, the deformity went on increasing for eight years, until the back described a right angle, instead of its usual curved line. Fortunately, the functions of the spinal marrow were not interfered with; there was considerable abdominal pain, partly caused by the crowding together of the internal viscera, but there was no return of uterine disease, and the patient was able to fulfil her household duties up to the eve of her death.

CONSUMPTION.—Dr. H. Bennet has started the idea that confirmed uterine inflammation leads to phthisis. I can quite understand that, among those who resort to Mentone, there are women suffering, both from tubercular deposit in the lungs and from uterine disease, but I should look upon both complaints as not in anywise standing in relation as cause to effect, being a joint result of the same cachectic condition of the system. There is no

consumption in any of the confirmed invalids that I am now attending, although some have been deprived of exercise, and more or less confined to the unhealthy atmosphere of a bedroom for many years. Dr. Bennet's views are, however, supported by Dr. Emmet, who goes so far as to speak positively of dysmenorrhœa frequently causing the early cessation of menstruation, and thereby being a frequent cause of phthisis in comparatively young women; which is contrary to my own experience.

UTERINE INFLAMMATION AS A COMPLICATION OF OTHER DISEASES.—When we find a large ovarian tumor or a voluminous fibroid, we are satisfied with our diagnosis; but if these diseases are accompanied by severe backache and by muco-purulent secretions, we should ascertain whether the principal complaint be not complicated by inflammation of the womb and of the vagina. On making this discovery and directing treatment accordingly, I have sometimes removed the severe pain attending ovarian tumors and large fibroids. With regard to the latter, we can do so little, that it is incumbent on us to keep the womb and adjacent tissues in as healthy a condition as possible, by rest, cooling injections, and the application of nitrate of silver, if it be required; and we should follow the same course when uterine inflammation is kept alive by small fibroids that cannot be dispelled by iodine, and should not be removed by the knife. In seven patients, repeated relapses of uterine inflammation were explained by my discovering, after long attendance, a fibroid of the size of a cob-nut, springing from one or the other side of the womb, at the junction of the cervix and fundus. The previous observations apply to cases in which the uterus is converted into a hard, regularly-defined body, about the size and shape of an ostrich-egg. I have only seen three cases of this description, and the patients were virgins. One was brought to me by Mr. John Harrison, of Chester, and he tells me that the enlargement subsided after a long-continued course of iodine. Another patient suffered much, for years, from flooding and muco-purulent discharge, and was no better when I last saw her. Another had been suffering for ten years from menorrhagia, muco-purulent vaginal discharge, great abdominal pain, and dysuria, sometimes requiring the use of the catheter. There had been no suspicion of more than functional uterine disease, until I found the hard enlarged womb with a small, soft, tender, and ulcerated cervix. Dysuria was then so great as to disturb the patient at

night, some twenty times. The treatment for chronic uterine disease, set forth in this work, abated many of the disagreeable symptoms, and enabled her to moderately enjoy life for the two following years. Dissatisfied, however, that I would not attempt to cure her by an operation, she consulted a surgeon, who professed himself ready to do so, but, fortunately, she first went to the obstetric physician of one of our large hospitals, who, most judiciously, discountenanced, as unwarrantable, any operation whatever. He advised tonics, which was judicious; the application of Kreuznach brine to the abdomen, which could have no effect on a cartilaginous womb, but he forbade the cooling vaginal injections. The result was, more frequent flooding and vaginal discharges; and when she again placed herself under my care, after an absence of eighteen months, I found the womb double the size than when I had last seen her, and the cervix and vagina were sub-acutely inflamed.

I believe small fibroids to be more frequent than is usually admitted, and in seven cases that have come under my observation, the tendency of uterine inflammation to relapse was at first discovered to depend on small fibroids, developed in some point or other of the body of the womb. With regard to the treatment of these tumors, I have checked their growth by iodine applications, but I have never caused them to disappear totally. Twice I have known a fibroid, of the size of a large hen's egg, developed on the anterior surface of the womb, disappear of itself, and the same circumstance has been noted by other observers. Sometimes fibroid tumors decrease, harden, and become more or less calcified, and Dr. McClintock has imitated this natural mode of cure, by giving chloride of calcium. I follow his example, and give ten grains of the medicine twice a day; its administration must be watched, for its long-continued exhibition, in young subjects, has been known to cause arcus senilis and other evidences of arterial degeneration.

CHAPTER XII.

TREATMENT OF STERILITY.

LIFE is the chief marvel of creation; and the life of man, with its unknown future and imperishable destinies, is of immeasurable value to the philosopher. To the statesman, life means the main source of the power and of the importance of a State, and the love of progeny is so strong an instinct, that many are miserable, with every other blessing, if they have no children. No wonder, then, that we should be so often consulted relative to the means of removing the causes of sterility. Dr. Matthew Duncan has shown statistically that three-fourths of married women have a child during the first year of their marriage, so it would be better for those who are anxious for a family, and who have none at the end of that time, to let it be ascertained whether sterility depends on any remediable impediment: for, the same observer has made out, that if women do not conceive during the first three years of their marriage, the chances are, 13 to 1, that they will remain sterile.

When women are fruitless they are always blamed, but it stands to reason that the fault may lie with the husband; and besides the manifest signs of impotence, Dr. M. Sims has lately ascertained for certain, that men in robust health and seeming aptitude for procreation, may have no spermatozoa in their spermatid fluid. My belief is, that the seeds of life have been sown as prodigally in woman, as throughout the rest of creation; that conception is much more frequent than is admitted, and that the frail bark, instinct with human life, that falls from each woman, may be, a thousand times, is often wrecked on its passage to the world, being rarely developed to the fulness of infantile perfection. When menstruation is spoken of, as being delayed, for a few days in married women, and then of being unusually profuse and prolonged, I think

of early miscarriages, but the fecundated germ usually passes away undetected, and, if sought for, would seldom be recognized from partial decomposition, although Serres states that he has frequently found it. In sketching the obstacles that may prevent the impregnation of the germ, we must remember that the ovary has been found so coated with false membranes, that there could be no possibility of the germ's leaving that organ. As it starts from the ovary, the ovule may not be seized by the fimbriated extremity of the oviduct, because inflammation may have destroyed the fimbria, or closed the opening of the oviduct, or so bound it down as to prevent its intended action. On arriving in the womb, the ovule may be destroyed by the uterine secretions, often rendered very acrid by internal metritis. After this stage the chance of impregnation depends on the possibility of the sperm ascending to the womb, for, without the vivifying contact of the sperm, the ovule soon falls to pieces. Of those that are impregnated many soon come to grief, because the lining membrane of the womb is not healthy enough to afford them a local habitation. Of those that are more successful, some are speedily thrown off by the many imprudences that are so stupidly accepted as necessary duties in the early life of a bride; fatigue, excitement, travelling, riding, particularly during menstrual periods, these products of impregnation passing away unnoticed as I have already said. Others give fair hope of a favorable issue, but drop off at a second, third, or fourth month; some of these miscarriages being traumatic, others are clearly due to a diseased state of the lining of the womb, it may be syphilis, or one of those conditions that I call internal metritis, the most important and least understood part of uterine pathology. The reader will have noticed, that in the progress of the ovule to the womb, and in that organ, sterility is caused by pathological conditions; women being made sterile, by menstruation being allowed to be habitually morbid, by pelvi-peritonitis being mistaken for dysmenorrhœa, by syphilis, and by our as yet limited knowledge of the best way of curing diseases of the lining membrane of the womb. Many women are, however, sterile because the sperm cannot reach the womb; this is prevented by a series of impediments that are partly medical, partly surgical, which it is better to describe, as they are discovered by the practitioner, the superficial first, and then the deeper seated. For the diagnosis and treatment of sterility, one is guided—first, by the careful examina-

tion of the reproductive organs; secondly, by the history of the menstrual function; thirdly, by the intensity of the orgasm that accompanies connection; fourthly, by the state of the patient's constitution. When women consult us on account of sterility, being convinced that it must depend on some internal physical impediment, only to be discovered by careful investigation, they come prepared to be examined, and would have a very poor opinion of any practitioner, who did not do so before giving an opinion.

ABSENCE OF CLITORIS.—On examining the patient, the clitoris may be found wanting, and if this be a congenital malformation, it coincides with frigidity, and is an efficient explanation of sterility, however well formed a woman may appear to be in other respects. This was so written before very uncalled-for prominence was given to this subject, and I have no reason to alter it, though it has been lately stated that pregnancy has occurred after the removal of the clitoris. Rouband found that sterility coincided with the absence of the clitoris in four instances, and I have done so in three, where I consider sterility to be irremediable. I therefore think that clitoridectomy is likely to diminish the chances of child-bearing, and is only justifiable in the cases specified at page 98.

UNRUPTURED HYMEN.—A membranous hymen is generally susceptible of being dilated, but I have been consulted by women who have been married for years, to husbands in the prime of life, and have found the hymen thick, flesh-like in color and appearance, and with an aperture sufficiently large to let pass the menses, but not sufficiently so to afford a facile ingress for the semen: the funnel-like appearance of the parts implying habitual connection. In such cases, dilatation of the hymen would be tedious and painful; so it is better to divide it in two places, with strong curved scissors, and when the bleeding has abated, to touch the lips of the wounds with the solid nitrate of silver. Passing the finger into the vagina every second day, and occasionally touching the sores with the solution of nitrate of silver, will promote the object in view.

PARTIAL ADHESION OF THE LABIA.—This is of rare occurrence, the result of neglected inflammatory conditions of the labia in childhood; but this infirmity may effectually prevent penetration, and requires the gradual separation of the labia by the knife, and careful dressing of the wounds to prevent their reunion by first intention.

OBLITERATION OF THE VAGINA.—When this is caused by the presence of fibrous tissue in place of the vagina, it will cause menstrual accumulation, and sterility may be deemed incurable notwithstanding the case of Dr. Debrou of Orleans, in which, by careful tunnelling, he not only gave a passage to the menses, but rendered possible the bringing of pregnancy to a fortunate conclusion.

VAGINISMUS AND CONTRACTION OF THE VAGINA.—This contraction is generally spasmodic, and may prevent penetration, particularly if the wife be nervous, and the husband advanced in years, and may render advisable the use of mechanical means to dilate the vagina and to deaden its hypersensitiveness. Bougies, similar to those used to dilate the rectum, may be kept in the vagina, and their size gradually increased; sponge-tents can also be used, and belladonna suppositories given, either by the vagina or the rectum, as I have stated at page 93. Rather than divide the vagina, I should, in extreme cases, forcibly distend it while the patient was under chloroform.

ABSENCE OF THE UTERUS.—When the womb cannot be felt, by the finger examining the vagina and the rectum, and when the finger in the rectum feels the tip of the sound passed into the bladder, without the interposition of any solid globular body, it is clear that the womb is absent and sterility absolute.

UNDERSIZED WOMB.—Neither in this case is there a chance of family. I have recommended injections with the addition of spirits of ammonia, but I have not known them to enlarge a womb by Nature made too small. Strange to say, I have only noticed this infirmity in large, tall women, in whom it would be least expected, one of them was cataleptic, and three others had, occasionally, hysterical fits.

ELONGATED CERVIX.—This deformity until lately was confounded with prolapsus; it greatly diminishes the chances of conception, for, it stands to reason that they are greatest, when, in connection, the opening of the penis is brought in close apposition with that of the womb. If the cervix, without being long enough to protrude beyond the vulva, is still long enough to interfere with connection, or with the patient's daily occupation, Huguier's operation, described at page 239, is quite justifiable, and still more so, when a family is desired; but I protest against Dr. M. Sims's assertion, that, when the cervix projects half an inch into the vagina,

it is very likely to induce sterility, for, as two-thirds of those who conceive are not otherwise formed, Dr. M. Sims's teaching would lead to a most unwarrantable multiplication of operations; a tendency to which, in our time, rather requires repression than encouragement.

UTERINE DISPLACEMENTS.—The chances of pregnancy are proportionate to the amount of semen entering the womb; and as, with well-adapted organs, the orifice of the male urethra corresponds with the os uteri, the semen is, to a certain extent, injected into the cervical canal, and, whenever this occurs, the deadly collapse which follows connection may solve uterine spasm, and so dilate the os uteri as to facilitate the entrance of a portion of the semen in which it is bathed; this explains why we so frequently find the womb misplaced when we are consulted for sterility, and why, in a few cases, Dr. M. Sims has found pessaries useful to permit impregnation, continuing their use till the fourth month of pregnancy had passed, and miscarriage was less likely to occur. Anteversion and retroversion diminish the chances of pregnancy, in proportion to the extent of the displacement, while a moderate amount of uterine prolapse rather favors conception, and, as displacements of the womb are generally the result of chronic congestion, or of inflammation, the chances of pregnancy will be great or small, in proportion as these conditions can or cannot be kept under.

UTERINE FLEXIONS.—Anteflexion or retroflexion of the womb may cause sterility, by determining stricture of the womb, at the point of flexion; nevertheless, I have known pregnancy to occur under these conditions. Scanzoni mentions having seen it in three similar cases, and the uterine malformation was cured in two. If anteflexion and retroflexion cause sterility, it is because they are often attended by inflammation, and directing treatment against that condition affords the best chance of a family. After removing all inflammatory appearances, I freely dilate the cervix, and occasionally pass, with great care, a small elastic catheter beyond the point of flexion; the uterine sound should not be used, and all stem-pessaries are objectionable, except the bulb-headed dilators soon to be described.

CLOSURE OF THE MOUTH OF THE WOMB.—This has been treated of at page 152, and is mentioned here as an obvious cause of sterility; the closing membrane will require to be punctured, if a

large quantity of menstrual blood has been retained; but, if the size of the womb be small, a crucial incision may be made in the membrane, and subsequent adhesion must be prevented.

STRICTURE OF THE CERVICAL CANAL.—This is often the sole cause of sterility; it is obvious that the semen must pass with difficulty through a canal that does not readily admit a small bougie, and that congestion, or slight inflammation of the membrane lining the cervix, full of thick, glutinous secretion, will effectually prohibit its entrance. In some of the cases of supposed obstructive dysmenorrhœa, in which I have been asked to sanction hysterotomy, recommended by others, I have found the stricture to depend on inflammatory thickening of the lining membrane of the cervix, and, by curing this, the patients have soon become pregnant without an operation. Neither can it be doubted that the circular fibres of the cervix are liable to spasm, like any other circular muscles, but, while admitting that cervical spasm may occasionally exist independent of any organic disease, I think it generally depends upon some structural lesion, hidden in the depth of tissues, beyond our field of vision. Spasm, as a complication of some more tangible cause of mischief, I freely admit, and I think credit is due to Dr. Head for having more forcibly drawn attention to this element of disease, susceptible of elimination by proper treatment. I feel convinced that many of those who are not sufficiently impressed with this fact will find stricture where others could not, and that this error of diagnosis has caused the neck of the womb to be divided much more frequently than is necessary. It is therefore wise to defer operative measures until anti-spasmodic treatment has been fairly tried, and, above all, opium and belladonna, and vaginal suppositories, chloroform capsules, and the injection of chloroform fumes into the vagina, according to Dr. Head's plan, should it be equally successful in other hands.

When, without being inflamed or spasmodically contracted, the cervical canal will not let an *ordinary uterine sound* pass easily through it, there is little chance of a family, and the cervix should be dilated or divided. I have thus given a standard of width as a guide of conduct in such cases, because none of the eminent men who have lately praised hysterotomy as a cure for dysmenorrhœa or sterility have stated what they consider to be the right width of the cervical canal. I am occasionally consulted by women who are barren, and who have been advised to have the womb divided,

although I was able to introduce with ease into the cervical canal a No. 4 wax bougie or the uterine sound. I should like to know who would venture to assert that this width of canal is insufficient for microscopical animalculæ to pass through, and, if it does not border on the absurd, to seek to give a wider berth to spermatozoa by the knife or sponge-tents, in the hope of curing sterility? The frequency of conception in young women, soon after marriage, is well known to obstetric practitioners; and I am convinced that it would have been found very difficult, in most of these women, to have introduced the uterine sound into the womb previous to conception. At all events, I have often found it difficult to introduce a No. 2 or 3 wax bougie into the virgin womb; nevertheless, pregnancy has subsequently taken place without the adoption of measures to widen the cervical canal. Many cases are on record in which pregnancy occurred when penetration was impossible. I have myself seen three, in which a fleshy hymen was only so perforated as to admit the uterine sound; and these rare cases certainly confirm the hitherto received belief, that microscopic animalculæ do not require the cervical canal to be wide enough for the forefinger to pass through, as Dr. M. Sims seems to teach.

DILATATION OF THE CERVIX.—If the vaginal end of the cervix has not a conoid shape, but will not freely admit the uterine sound, I first try dilatation, as described at page 27. Thus practised, dilatation is certainly open to the objection—that it is dilatory, and that, after all, it may be a useless proceeding; but it has never caused the slightest dangerous symptom in my practice, nor in that of Dr. Bennet.

There is another mode of practising dilatation, by means of the bulb-headed dilators of Sir J. Simpson. I adopt Dr. Bennet's statement, that they are free from the objections which apply to intra-uterine pessaries, and, if carefully used, are safe and effectual. "No force need be employed, as we depend for dilatation on their gradually tiring out, as it were, the contraction of the part of the cervical canal into which they are introduced. A size is chosen which just passes, and which is sufficiently small to be grasped by the cavity of the cervix. Its sojourn in the cervical canal, *if there be no inflammation*, is unattended with irritation or inconvenience, and, in the course of a period varying from a few hours to four-and-twenty, the cervix relaxes around it, and becomes sufficiently open to admit of a larger-sized bougie. The great difficulty with

these bougies is their introduction, on account of the large bulb. If the vulva is relaxed and open, nothing is easier; but if, on the contrary, as is very often the case, the vulva is small and contracted, it becomes extremely difficult to introduce the bulb, and, subsequently, to guide the other extremity to the os uteri, even with the assistance of the finger and of the director, which fixes in the bulb. I endeavored at first to obviate this difficulty by having metal bougies made with a very small bulb, keeping them *in situ* by a small piece of sponge introduced into the vagina as a pessary. This plan, however, does not answer, as the bougie, not having the support of the bulb, is easily expelled: moreover, the presence of the sponge is often attended with vaginal irritation. I have, however, succeeded in rendering them much easier of introduction, by diminishing the size of the bulb, making it of one thin sheet of metal, with a slight rounded rim, instead of hollow, as is the case with Sir J. Simpson's. Another improvement is to give the stem a slight anterior curve, to make it suit the anterior curve which exists in the uterine cavity. I first introduce a small wax bougie into the uterus, leave it a couple of minutes, and on its withdrawal bend the stem of the bulb so as to imitate the anterior curve, which the wax bougie all but invariably presents. The metallic bougie must give much less discomfort and sit easier when it thus adapts itself to the natural curve of the uterine passages."

HYSTEROTOMY.—The tediousness of the process of dilatation, the difficulty of doing it well, and its inutility in a certain number of cases, has caused the slitting up of the cervix to be preferred by many. I own that, in my previous editions, I have been too much opposed to the operation, and that it must be considered another of the many improvements that we owe to the inventive genius of Sir J. Simpson. Since the introduction of the operation, its dangers have been diminished, because it has been found unnecessary, in many cases, to cut down to the os internum, so that the circular arteries which surround it escape being wounded; moreover, we have now, in perchloride of iron, a very potent means of checking the flooding, that has sometimes been fatal, and often very severe. Flooding, to a considerable extent, is the only accident admitted by Dr. M. Sims, but Drs. Greenhalgh and Rogers have each lost a patient from peritonitis, a few days afterward, and, before consulting me, one of my patients was so ill with pelvic inflammation, after the operation, that the operator sat up with her for several

nights, giving a grain of opium every hour; and, although under his care for several months, she improved but slowly, had three similarly severe attacks of pelvic inflammation during the subsequent three years; and when, at the end of that time, she came under Dr. Bennet's care, there was inflammation of the womb, with stricture so great that it was difficult to introduce the smallest bougie. It is singular that this lady never suffered from uterine symptoms until the womb was slit up eight years before, but she has been seldom free from them since, and has never conceived. I may say the same of the daughter of a Scotch baronet, whose womb was slit up in the hope of conception, but unavailingly, and she has ever since been confined to the sofa for disease of the womb.

If I have exaggerated the dangers of the operation, others have exaggerated its advantages. The tenor of Dr. M. Sims's valuable work is to represent pregnancy as insured by slitting up the cervix, and the assertion that he had done so five hundred times in the space of two years, in the Women's Hospital of New York, shows to what an extent he carried the practice. So much I must say, in order to prevent others following, in this respect, the example of so eminent a surgeon, and who may not know that, with most honorable and praiseworthy candor, he confessed, at the Oxford Meeting of the British Medical Association, that he had much too frequently performed this operation. In the paper that he read on that occasion he laid down certain rules that deserve very careful consideration. Before subjecting women to operations for the cure of sterility, Dr. M. Sims judiciously remarked that it is first necessary to ascertain that there be spermatozoa in the spermatic fluid. For this purpose he examines the patient about four hours after connection, and then he tests with the microscope a drop of the vaginal secretion to ascertain whether there be spermatozoa to be detected, either alive or dead. If living spermatozoa are found in a drop of mucus removed from the inside of the cervix, it will be clear that no slitting of the womb is requisite, whatever be its shape or condition. If, four hours after connection, only dead spermatozoa are found, in the drop of cervical mucus, it is evident that the cure of sterility in such a case is to be attempted, not by slitting up the cervix, but by curing the internal metritis, the acrid secretions of which speedily kill the spermatozoa. This is rational, and ought to prevent unnecessary operations.

When we come to analyze the possible results of dividing the cervix, there will be:—1stly. The deep draining of the uterine tissues, which will be useful, if they be congested and hypertrophied. 2dly. The division of the circular fibres of the womb will solve all spasmodic action on their part, and lead to the shortening of the cervix, and to a wider os uteri. 3dly. The shape of the womb cannot be altered, and its size diminished, without altering the connections of the womb, which would explain the reported utility of the operation in certain cases of uterine flexions. 4thly. It may modify the innervation of the womb, as does the section of the nerve in brow ague, which might make it useful when the pain attending hypertrophy and displacements is very distressing, and cannot be otherwise quelled. I have no hesitation in sanctioning hysterotomy where it is difficult to introduce a No. 1 or 2 bougie, and when the vaginal extremity of the cervix has a conical shape; for, in that case, it is obviously difficult, if not impossible, for the semen to enter the womb, even if there be no stricture. I see no use in attempting to dilate tissues that have the consistency of gristle, and I prefer dividing them, as I do, if I find that the cervix does not yield kindly to the means of dilatation.

MODE OF OPERATION.—This must be governed by the seat of the stricture. On this point pathologists are at variance, and I am myself undecided as to the degree of frequency of stricture at the os internum. When the cervix is acuminated, the stricture, as correctly stated by Dr. Barnes, in the eighth volume of the *Transactions of the Obstetrical Society*, is generally found near the os externum. In these cases I introduce a large speculum, seize the cervix with the hook, and divide it right and left, with the scissors, about three-quarters of an inch. I permit it to bleed freely for ten minutes, and then check the bleeding with the perchloride of iron. If the stricture be higher up, I incise the strictured tissues, layer by layer, right and left, and wait a few minutes before attempting to stop the bleeding. I keep the patient in bed, examine her two days after the operation, and pass a large bougie through the cervical canal, to prevent adhesive inflammation of the wounded tissues. It will be thus apparent that I prefer, with Dr. M. Sims, to perform hysterotomy with scissors and bistoury, in broad daylight, with the full knowledge of what one is doing, rather than to work in the dark, with more or less complicated in-

struments. The tendency of the uterine tissues to heal by first intention is so great that many of these operations are of little use, because the division is not followed up by dilatation. I am in the habit of passing a bougie every second day, and about the eighth or tenth day after the operation I sometimes leave a tangle-tent in the passage, or one made of metal, or sometimes a bulb-headed dilator.

UTERINE DILATORS.—Dilatation of the cervix by tents, or its division, is a well-grounded operation; but I cannot understand the utility of attempting to dilate firm tissues, half an inch thick, for a few minutes, every second or third day, by means of various expanding uterine sounds, that have been invented for that purpose. In experienced hands their use is inoffensive, but not more advantageous than passing through the cervix a wax bougie of similar calibre.

POLYPI.—Even very small polypoid growths in the cervical canal, by obstructing its area, have been shown to be the cause of sterility, by fecundation following quickly on their removal. Fibroids, unless they fill up the uterus, do not prevent conception, however much they may impede delivery.

INFLAMMATION OF THE WOMB.—This I have always considered as the most frequent source of sterility, for the germ cannot easily take root on the diseased surface of the lining membrane of the body of the womb in internal metritis; whereas, inflammation of the lining membrane of the neck of the womb often so increases the glutinous secretion of its follicles, that it presents an effectual barrier to the semen, and its admission is equally obstructed, if stricture of the womb has been the result of hypertrophy or chronic inflammation. Neither should it be forgotten that, if the spermatozoa can live in muco-purulent secretions, they are killed by the acrid secretions of internal metritis, and by the vaginal mucus, when it is too acid. This was written before I had listened to Dr. M. Sims's recent remarks, and his microscopic researches amply confirm the pathological views that I have long held.

INFLAMMATION OF THE OVIDUCTS.—These organs are very prone to inflammation, as is clear from the occasional obliteration of the uterine ends of these tubes, and, from the frequent obturation of their distal ends. If the inflammation of these tubes be moderate, it passes unperceived; and, if it be severe enough to determine a collection of pus, it is mistaken for a more common

complaint—ovaritis. The oviducts are sometimes obstructed by thick mucus; and it was suggested, some years ago, to deobstruct them by means of a small whalebone-bougie, introduced into the womb through a small silver catheter, but the proposal does not require consideration. I do not believe it possible to sound the Fallopian tubes, and, if the operation could be performed, it would be useless, and the profession would be unanimous against any attempts to inject the oviducts with medicated fluids, as the practice is, to a certain extent, dangerous, even when applied to the cavity of the womb.

ABSENCE OF OVARIES.—This would imply absolute sterility; but the ovaries, like the oviducts, are generally beyond the reach of the finger, unless much increased in size, and their absence can only be inferred from that of menstruation, and from a less womanly appearance.

ORGANIC DISEASES OF THE OVARIES.—The previous remarks apply to the ovaries when their structure is transformed into fibrous, tuberculous, or bony tissue; but, while one ovary is transformed into a vast multilocular cyst, the other may let fall ova susceptible of arriving at maturity; and, a year after ovariectomy had been performed, a woman was safely delivered.

OVARITIS AND PERITONITIS.—In 1850, I stated that ovulation, like dentition, might become inflammatory, and to a certain extent limit the fertility of woman. I also stated, that morbid ovulation often led to pelvi-peritonitis, and caused sterility, by covering the ovary with false membranes, through which the product of ovulation could not pass. These statements have been amply confirmed, and since the researches of Drs. Bernutz and Goupil, the importance of pelvi-peritonitis in relation to ovario-uterine disease is fully admitted. When treating dysmenorrhœa we should look out for more permanent pain in the ovarian regions, pain increased by pressure, and persisting for some days after menstruation. Six or eight leeches may then be applied to the painful spot, followed up by mercurial inunctions, warm hip-baths, gentle purgatives, and rest. If pelvi-peritonitis often escapes attention in the living, it is a well-recognized cause of sterility in the dissecting-room, where it is common to find the distal end of the oviducts obliterated by false membranes, or the tubes so strapped down by adventitious bands as to prevent the instinctive application of their funnel to that portion of the ovary from which the ripe ovule is about to drop. The

ovaries themselves may be so imbedded in false membranes that the ovules are completely locked up. These conditions evidently point to absolute sterility, but they are often beyond the limit of detection, and must be inferred from menstruation being often accompanied by very severe and long-continued pain, or from the knowledge that a sharp attack of pelvic inflammation followed miscarriage on pregnancy.

HABITUAL MORBID MENSTRUATION.—Patients consult me for sterility in whom I can find none of the conditions previously enumerated, and in whom, nevertheless, the menstrual function has been, from the first, scanty or profuse, irregular or over-painful. If this constant morbid menstruation is not improved by marriage, which is rare, women are generally fruitless; and it is easy to understand that the same ill-defined pathological condition of the reproductive organs which causes morbid menstruation should likewise cause sterility.

ABERRATIONS OF SEXUAL EXCITEMENT.—The physical appearance of organs may be perfectly satisfactory, but the hidden power that works the machinery may be above or below that moderate standard which is the best guarantee of healthy action. That connection should be pleasurable, is a sign of the reproductive organs being healthy; but it has been long remarked that Messalinas are sterile: this may depend on the inability of the germ to take root, or on its being speedily cast off in subsequent paroxysms of venereal excitement. There are barren women in whom nothing seems amiss but too intense passion, and I remember a case in which it subsided after the prolonged use of cold hip-baths, cooling injections, and the internal use of camphor; soon afterward the patient became pregnant. For further details respecting the anaphrodisiacs that are said to exert special power over the sexual organs, I refer the reader to page 83. Whether or not such cases are more carefully concealed, they less frequently come under my observation than those of the opposite extreme—frigidity. Women may be well formed, happily married, and without any tangible imperfections of the sexual organs, and yet completely indifferent to connection, which neither gives pain nor pleasure, and I have been consulted by nine such women who have never conceived. In two other cases, where I can find nothing amiss, connection not only gives no pleasure, but acts as a poison to the nervous system, and causes a state of unconsciousness for hours, followed by head-

ache and utter prostration, which does not wear off for several days. One of these ladies has been married twenty years and has one child, the other eighteen, and has no family. In these cases the toxic influence is less when connection is preceded by a more perfect orgasm.

CONSTITUTIONAL CACHEXIA.—Medical inquiries are constituted by links, so connected as to form a perfect circle: discussion must break the circle somewhere, and, if I first expatiated on the more apparent causes of sterility, it was not that I meant to deny that it may be caused by a bad constitution. Weakly women have often large families, but constitutional debility may cause some of those diseased conditions of the reproductive organs on which sterility depends. If the constitution rallies spontaneously, or by the use of medicines, conception may even take place in spite of the persistence of uterine inflammation. In some women, the reproductive organs are, to all appearance, perfect in form and function; there is nothing to explain their sterility but confirmed debility, and they become pregnant if they can recover their strength: hence it follows that all the appliances of tonic treatment should be brought into action. I am not aware how far a scrofulous constitution is a cause of sterility, and, should it be so, it would only suggest tonic treatment. Syphilis is an obvious cause; for, as it pervades the system, the ovule may become blighted in the ovary itself, which would most likely prevent conception, or, should it occur, syphilis induces miscarriage, or the premature parturition of diseased offspring: so, both husband and wife require anti-syphilitic treatment, to insure the life of healthy children. It has but lately been well established that gonorrhœa may extend to the lining membrane of the womb and to the oviducts, thus causing pelvi-peritonitis, and insuring sterility by a combination of morbid processes, but, for further information on this subject, I refer the reader to the well-known works of Mr. Acton and Mr. Henry Lee.

EMPIRICAL TREATMENT.—In a few cases, though every condition seems most favorable, there is no family; so, in the absence of all positive clew to treatment, we must be guided by problematical indications. Without being caused by ovulation, menstruation frequently coincides with it, which explains the success that followed Ambroise Paré's advice to his sovereign, to have connection during the menstrual epoch. Negrier asserts that he has always found the plan successful, and this reminds me of Coste's experi-

ments on rabbits, which have led him to believe that, in women, connection promotes the bursting of follicles, which would have been otherwise delayed. The very strong sympathies that bind the breasts to the womb confirm the idea that, by exciting the breasts, we may powerfully stimulate the other organ. While Hippocrates checked menorrhagia, by stimulating the breasts, others have cured amenorrhœa, by the same means; and the late Dr. Charles Loudon mentions that four out of seven patients were thus enabled to become mothers. A similar idea occurred to Marshall Hall, who suggested that a strong infant should be applied to the breast, and Dr. Bayes, of Brighton, advised fomentations of warm milk to the breasts, and to the corresponding portion of the spinal column, and to apply the breast-pump, two or three times a day, just before the menstrual period. Neither of these practitioners supports his views by cases, but the plan is worth trying. This reminds me of a case related in my work "On Ovarian and Uterine Inflammation," in which a hard and painful swelling of a portion of the breast became apparent in the wife of an eminent surgeon. It was pronounced cancerous by many, but Sir C. Locock and Sir B. Brodie thought it benignant; and this mammary tumor was the first indication that the menstrual function was going to be reëstablished after fifteen years' absence. The painful swelling then subsided, the lady became pregnant, and has been safely delivered of five children, although Sir J. Simpson had given his opinion that she would never have a child, or would die in childbed should pregnancy occur.

The Arabs race their mares till they are fatigued before they put them to the stallion. This may arouse the activity of circulation in the reproductive organs, and diminish spasmodic action on the part of the womb. Horse-exercise, carried to fatigue, may have a similar effect on women, and seems occasionally to have conduced to pregnancy. One might explain in the same way the reputed successful effects of flagellation, which was submitted to by women, as a cure for sterility, in some of the temples of pagan Greece and Rome. When I am consulted by too stout a person, I try to fne her down by exercise, mental labor, and by a diet from which bread, butter, milk, sugar, beer, and potatoes, are excluded; for there are well-authenticated cases of women, who were stout and barren, in opulence, becoming thin and prolific, in poverty. If this be true, it is a repetition in the highest region of vitality

of a well-known law in vegetable physiology—that plants bearing a double flower produce fruitful seeds when placed in an impoverished soil. If the person be thin, one can only try to fatten her, in the faint hope that it may effect in some way the necessary improvement. Castor, ambergris, cantharides, and aromatics, are given for sterility in Eastern countries: these substances are all diffusible stimulants; some act specially on the reproductive organs, and give increase of power to the impotent; but I am not aware of any facts to prove their further utility. A temporary separation of man and wife is often advisable, to give to matrimonial intercourse the stimulus of novelty.

It is very singular that a woman may become fruitful after a long lapse of years. I have cited one case in proof, and many similar instances are recorded: but it does not follow that if she has been sterile with one husband she must be so with a second; for sterility may depend on *physiological incompatibility*: a man and his wife living together for years, having no family, being divorced, marrying again, and having families, without any apparent change of their health, before or after the divorce. After the forty-fifth year, the chance of fecundity suddenly diminishes, becoming less and less every year; but I know of two instances in which conception occurred during the change of life. One was a single lady, forty-seven years of age, in whom the menstrual flow had been very irregular for the previous two years, with that general failure of health which so often indicates cessation. The belief that impregnation was impossible at this period led her to permit liberties, which were followed by pregnancy and the birth of a child. This case is the more remarkable, as connection only occurred once, seventeen days after a flooding which lasted ten days—an instance of ovulation without menstruation. Fecundity is possible after cessation, because ovulation is not tantamount to menstruation, and the ovaries may, in rare instances, induce most of the symptoms of menstruation, shedding ovules without the womb discharging blood. Women sometimes conceive during lactation, before the return of the menstrual flow; and as, in some very rare cases, conception has taken place before first menstruation, so I believe it possible in very rare cases after cessation. Mr. Pearson, of Stalybridge, has published the case of a woman who, at the age of forty-seven, was delivered of her tenth child, eighteen months after the cessation of the menstrual flow. He

informed me that between her last two confinements three years and four months had elapsed, and that, after suckling the child, she had been regular several months previous to the cessation of the menstrual flow, for which no cause could be detected. This woman suckled her last child, and has not menstruated since: forty-six is not a very unusual date of protracted procreative power, but the fact of conception taking place nine months after the cessation of menstruation is very singular. As an instance of the eccentricities which characterize the generative function, I may mention that I know a lady who was married at eighteen; both herself and her husband enjoyed habitual good health, but conception did not take place until the lady was forty-eight, when she bore a child: another case is reported by Schmidt, where a well-formed female, who married at nineteen, did not bear a child until she had reached her fiftieth year.

CHAPTER XIII.

INFLUENCE OF INDIA AND HOT CLIMATES ON THE HEALTH OF WOMEN.

WE have conquered India, but we succumb to its climate. The newly-arrived soldier bears up best against it, while every additional year of his sojourn renders him less able to contend against the Indian climate. So it is with English women: they arrive in India, fresh and rosy, but the first hot season blanches all color from their cheeks, and the longer they remain the more subject are they to deranged menstruation and to uterine affections. Children born in India, of British parents, pine after the fourth year, and must be sent to England. This means, that while we have founded Anglo-Saxon empires in America and Australia, we can only garrison India. I gather from Sir R. Martin's papers, on the sanitary state of the British Army in India, that there were lately attached to our large garrison in India women and girls enumerated as "British-born subjects in India," amounting to 19,306, of whom 9,773 were twenty years of age and upward, including 7,570 wives, 1,146 widows, and 1,001 unmarried women; 786 wives were under the age of twenty; the number of wives of English origin, under the age of forty-five, scattered all over India, are said to amount to 7,626.

The mortality among the wives of officers does not appear to be very great, if we judge only by the rate of the mortality of wives and widows in the Madras Military Fund, from the ages of twenty to forty; for this is stated to be 14 in 1,000 annually, but then it must be remembered that many return to Europe, invalided. The wife and children of the non-commissioned officer and soldier do not fare so well as those belonging to the superior ranks, for they must remain in India, although the provision for

their accommodation be inadequate. Women, including those of English birth and the Eurasians, are exposed to great hardship, and die at the rate of 35 per 1,000. In the Lower Orphan School of Calcutta, the mortality was double or treble the English rates; but results greatly more favorable are obtained at the Laurence Military Asylum on the hills. The following remarks, respecting the health of British women in India, apply also to a certain number of our countrywomen who have to live in the West Indies and in the worst parts of Africa; but, before pursuing this inquiry, it is well to ask whether the natives of India are subject to uterine affections.

I am not aware whether our hard-working fellow-laborers of Copenhagen and Stockholm have ascertained the frequency of uterine diseases in the northern latitudes; but, with regard to tropical countries, it appears that organic uterine affections are as frequent and as various as in the temperate regions of the globe. It is erroneous to suppose that these affections are the result of an over-refined state of civilization, for they are frequently found amongst the unirritable women of uncivilized races; thus my friend Dr. Duncan Stewart, late Professor of Midwifery in the Medical College of Calcutta, and Physician to the Hospital for Native Women, was forcibly struck by their frequency amongst the natives of India, both of high and low caste, and his statement is confirmed by the native practitioners, who, from being looked upon with less jealousy by their countrymen, have had the best opportunity for observation, and particularly by Madoosudun Goopla, whose record of lesions met with in the dissecting-room of the Native Female Hospital of Calcutta will be found in Dr. Bennet's Fourth Edition. With regard to the nature of the uterine diseases that come under observation, Dr. Stewart, at Calcutta, and Dr. Scott, the chief medical officer of the Madras Hospital for Diseases of Native Women, assert that, whether it be studied at the bedside or in the dissecting-room, uterine inflammation presents the same appearances in the Hindoo as in the European. Mr. Robert Clarke, who for twenty years was colonial surgeon at Sierra Leone, informs me that amenorrhœa, dysmenorrhœa, leucorrhœa, and profuse menstruation are as frequent in negro women as in English, but that hysteria is very rare. Dr. Kirkman Finlay, Superintendent of the Hospital in Trinidad, likewise assures me that the native women are seldom without suffer-

ing from some form or other of **uterine** disease, and the French creoles aptly indicate **their** chief cause of suffering by calling it *mal de mère*. Although I shall again refer to the probable causes of uterine disease amongst the natives of tropical climates, my remarks will be especially directed to the several varieties of inflammation of the body and neck of the womb, and to such uterine enlargements and displacements as are often the result of inflammatory action in India.

With regard to the probable causes of uterine diseases amongst the native races of tropical countries, one cause is, the sexual system being called into action long before its full development. In India, this is the result of a positive religious injunction, and in other tropical countries, an equally early indulgence in venery often occurs, on the first impulse of passion, amongst races little restrained by social position or the dictates of morality; and indeed, no matter the latitude, wherever woman is but a plaything in the hand of degraded savages.* The great liability to abortion, accidentally and often intentionally brought on; the barbarous handling of unskilful midwives; the too early rising from the puerperal couch; the want of cleanliness in some races, and in all the sudden action of cold, owing to the alternation of burning days and cold nights, are the principal causes of uterine disease amongst the native races, and European women are amenable to some of these influences.

In estimating the comparative frequency of uterine affections in the European residents of tropical climates, it must be borne in mind, that, whether in India, or in our other tropical possessions, European women are generally young; they leave Great Britain at about twenty, and very seldom remain in India after forty, thus passing, in a hot climate, the period of life in which uterine inflam-

* "Esquimaux women marry and live with their husbands long before they become menstruated."—*Dr. Richard King's Replies to the Author's Questions.*

"Amongst the aborigines of South Australia, girls are betrothed and live with their husbands from eight to twelve years of age. They practise sexual intercourse from the eighth year upward. Child-bearing commences at about sixteen years of age, when girls cease to be public property, and live quietly with their husbands."—*Mr. James Hersbach's Replies to the Author's Questions.*

The celebrated Abyssinian traveller, Antoine d'Abaddie, informed me that the legal age of marriage in Nubia is twelve; but he has known girls married at ten, and others to have been bought and used for sexual purposes long before they were menstruated.

mation is most common, even in temperate regions. This remark is made as a safeguard against exaggeration; but, I am fully prepared to concur with those who have practised in tropical countries, that during their residence in India, Europeans are unusually prone to uterine disease. Dr. Stewart does not hesitate to say, that eight out of ten of the European female residents are habitually subject to deranged menstruation, leucorrhœa, or to cervical excoriations; and Dr. Tracy, who is in large practice in Melbourne, considers uterine inflammation and ulceration to be more frequent than in Europe. Although I have not practised in tropical climates, I have frequently had under my care, during the last twenty years, patients invalidated by uterine inflammation, in the East or West Indies, the Brazils, China, or Australia; for these different climates may be considered to favor the development of uterine disease, in the same way, however different may be their pathology in other respects. In addition to this favorable opportunity for studying the influence of tropical residence on the rise and progress of uterine disease, my intimacy with Dr. Bennet has made me acquainted with his large experience, so that these observations may be considered as representing his views as well as my own. The inquiry has not received consideration, in any work with which I am acquainted; so it seems useful to submit our joint views to the medical profession, and to bring them under the attention of those who are practising in India and in our numerous tropical possessions, in order that they may fill up the deficiencies of what is only offered as an imperfect sketch, although it has received the approbation of Sir Ranald Martin, Dr. Goodeve, and Dr. Duncan Stewart; names that are still household words in India.

Firstly—Why do tropical climates increase the frequency of uterine inflammation in those born in temperate climates? The conditions of a tropical climate may be summed up in a few words—Intense long-continued heat, to debilitate the system; sudden cold, to check perspiration and produce internal congestion; malaria, to poison the nervous system and the blood. With regard to the intensity of the heat: the mean temperature of Calcutta and Bombay is about 67° F. in winter, 83° F. in summer, and in many parts of India the temperature is still higher. At Sangre, for instance, in Central India, during the summer of 1864, the temperature inside the house was 110° F., although light was excluded, and

the tatties and thermantidotes in working order; at night the temperature was 98°; and Mr. Chippendale tells me that, in many parts of the West Indies, he found little or no difference between the temperature of the day and night. The influence of such permanent heat has been well described by Ernest Godard, who was sent out by the French Government, on a scientific mission to Egypt: "A mon arrivée au mois de Février, j'étais énergique, courageux au travail; peu à peu mes facultés se sont affaiblies. J'ai senti que mon cerveau s'alourdissait et cette nonchalance, cette paresse invincible n'ont fait que s'accroître. Vers les mois de Septembre et d'Octobre, j'avais de la peine à suivre longtemps la même idée, et je ne pouvais travailler qu'en passant bien vite d'un sujet à l'autre. Ici le travail physique est encore possible; quant au travail intellectuel il faut y renoncer. Parfois, après avoir écrit quelques lettres sans importance, je m'arrêtais harassé, je ne pouvais plus continuer, et ma tête était horriblement lourde. Je comprends maintenant la nonchalance des Turcs et des Européens. S'asseoir est encore une fatigue; il faut s'étendre, avoir chaque partie du corps soutenue par des coussins. Aussi les gens du pays ne connaissent pas les tables à écrire, ils se couchent à terre sur des nattes, et ils écrivent sur leurs doigts sans jamais se presser." Long-continued heat deteriorates the blood, and causes variable degrees of anæmia, explaining that deep-rooted debility brought on by a more or less prolonged residence in a hot climate, even when the transplantation has been well borne by the European.

All writers agree that, in tropical climates, diseases are principally caused by the action of cold on the frame debilitated by heat, and they look on the damp, cold nights as the chief cause of fevers, cholera, dysentery; Dr. Aubert Roche, who practised for four years at Suez, states that ninety per cent. of all diseases were caused by the exposure of the perspiring body to the refreshing winds of evening and night, which are saturated with dew. Strange as it may sound, a large portion of disease in tropical countries is thus referable to cold, for the thermometer in the shade, at Calcutta, at noon and at midnight, during the rainy season, marks a difference of temperature which is often greater than in temperate countries. If travellers are correct in reporting that, in tropical climates, when the ground is dry and the sky clear, the quantity of dew condensed on the trees is sometimes so great as to fall down like a shower of fine rain, exposure to night air may be well con-

sidered dangerous to health. Even during the **six months** of dry heat, in many parts of India, after long hours of dead calm, **about** two or three in the morning, there is a sudden fall in the thermometer, the air begins to move, so that those who are sleeping outside, or with the windows open, are in a draught just at the time when, in the human body, there is a minimum of electric tension and vital power. Take Bangalore, one of the best stations in the Madras presidency; for eight or nine months in the year the nights are said to be so cold that a couple of blankets are very acceptable, and, in early morning, the wind is sufficiently cold to chap the face, but, when the sun has risen, it is so hot that it is not reputed safe to move about, except in a carriage; the result is, that many are carried off by chest affections, or suffer from internal congestions and suppression of menstruation. It need not, then, surprise us, that Dr. Boggs should mention, in the thesis that he wrote on taking a Paris degree, his "having seen many cases of uterine inflammation caused by sitting opposite or close to punkahs or thermantidotes, which lower the temperature of the room ten degrees."

Thus living in a temperature which, even in the shade, equals and often surpasses that of the blood, it is easy to understand that women will seek relief by exposing themselves imprudently to the sea-breeze, to the cold northwester, or to the icy chill of a raw, dewy night, which is felt to pierce through a frame inadequately protected by scanty European clothing, more or less saturated by perspiration; while the loose but ample folds of the trousers and belts worn by the women of most Eastern nations are much more calculated to prevent the injurious action of cold on the pelvic viscera. Even the greatest preservative of health, in a warm climate, the cold bath, may be abused; and Dr. D. Stewart has sometimes traced uterine disease to its having been imprudently continued during the catamenial periods. Thus cold, under its many modes of application, tells most on the weakest organ, originating uterine disease in India, as it does in England. Whether the ill effects of the sudden application of cold to the external surface depend on its checking the cutaneous secretions, or on its disturbing the sympathetic relations which exist between the cutaneous nerves and internal organs, or by altering that electrical status of the system with which we are as yet so little acquainted, it is difficult to say; but it is certain that the sudden application of cold, particularly raw, damp cold, is the most frequent cause of menstrual perturba-

tions and of uterine disease in every country, whether it be cold,* temperate, or tropical.

Debility is not only caused by the physical effects of habitually intense heat, but sometimes by malaria, and always by the comparative inactivity and complete change of habits, which soon imparts a certain amount of Oriental indolence to the once hardy Englishwoman. It is well known that this confirmed debility renders the more important viscera very liable to subacute inflammation; and there is no reason why the womb should escape this influence, or why it should not be then more forcibly acted on by its usual exciting causes of inflammation. No wonder, then, if Dr. Boggs should consider anæmia an important "cause of the extraordinary frequency of uterine inflammation among European females in tropical regions." Malaria is more fatal in some parts of India, but it can seldom be avoided. The evening drive is on the banks of a river, or of some large tank of stagnant water, and those who sit or drive inhale malaria with the cool, damp breeze.

When we intend a plant to thrive in a soil different from that in which it had grown, it is not only removed carefully, but left for a time in undisturbed repose to take root in its new habitation. There is, however, no such healthful period of repose for our young countrywomen who are transplanted from England to India. Even when the menstrual function has been habitually regular, it is often disturbed by the sea-voyage, and is not allowed to become regular before these emigrants of the upper ten thousand are launched, often for the first time, into the gayeties and fatigues of society, which, in such a climate, are far more fatiguing than at home. In the midst of the excitement caused by this sudden introduction to a strange country and a new position, they frequently marry, sometimes at too early an age, often before the catamenial function has become regular. Thus placed in circumstances most adverse to health, women find themselves the more sought after, because they are few in number, and they naturally enough give themselves up to the pursuit of pleasure, and set at defiance the laws of hygiene. Several army surgeons have assured me that they have seen Eng-

* "Suppression of menstruation is, perhaps, nowhere so common as in the Feroe Islands. It appears that the nature of the soil is such as to permit women to move about without shoes, and with only a skin wound round the feet, so that they are always damp and cold."—*Returns to the Author's Questions from Dr. Ravn, of Copenhagen.*

lish ladies riding and dancing ten days after their confinement. Women cannot live in India, or in any other tropical climate, without being subject to those abdominal disorders which tend to induce uterine disease. The "country fever" may assail them from time to time, lighting up inflammation in the weakest organ; and, before long, the colorless lips and sallow cheeks denote that the blood has been deteriorated, and that the patient suffers from that anæmia which, even in a temperate zone, often stands related to inflammation of the womb, either as cause or effect. The muscular inactivity to which they think themselves condemned, the unusually abundant loss of blood occurring during menstruation, and after abortion and parturition, increase the anæmia, and explain that deep-rooted debility* which can only be removed by the bracing influences of a prolonged sojourn in a temperate climate. These are the conditions which explain the valetudinarian existence of European women in tropical climates, and the frequency of uterine diseases; and, after thus sketching the causes of this frequency, I shall now explain more fully the action of some of these causes.

If, when women are transplanted from temperate regions to tropical countries, habitual perturbations of the menstrual function may be expected, even in those in whom that function had been previously regular, it is not surprising that menstruation, when morbid in England, becomes more so in India, and that, instead of the usual moderate flow, it is entirely absent or very profuse. A patient, who has suffered considerably from congestion of the womb and ulceration of the cervix, tells me that, during the four or five months of the hot season, at Calcutta, she was scarcely ever without a sanguineous uterine discharge, whereas, during the cold season, she menstruated about every sixth week; and this lady assures me that many of her friends were similarly affected, the menstrual discharge being more and more pallid, as the patients become more and more anæmic. So great is the tendency to uterine hæmorrhage in India, that it has become a frequent practice for our countrywomen to return to Europe for their confinements, so as to avoid the profuse flooding by which it is so often accompanied in India.†

* My friend, Dr. Dundas, who was for twenty-three years medical superintendent of the British Hospital at Bahia, believes that European women feel the depressing effects of warm climates more than men; and he attributes the difference to the greater indolence of the habits adopted by the female residents.

† "Dysmenorrhœa and suppression of the menstrual flow are common in Deme-

The fact is thus brought out, that as tropical climates produce uterine inflammation, because habitually intense heat disturbs menstruation in those who were not born under tropical influences; so our countrywomen, when transplanted into India, become more liable to inflammation of the womb, as a result of pregnancy, abortion,* and parturition, than if they had remained in England.

That a tropical climate should be productive of uterine inflammation, in those brought up in temperate regions, is also dependent on the fact that Indian pathology is essentially *abdominal*. Tropical heat increases the activity of the liver, and other organs connected with the portal system, rendering all abdominal inflammatory affections more frequent and dangerous. The very intimate connection, that I have shown elsewhere to exist between congestion of the liver† and uterine congestion, will be found more evident in India, by those who will henceforth seek for its occurrence, since nothing in pathology is so sure as that heat causes diseases of the liver. This will partly explain why it is difficult to treat, and still more so to cure, diseases of the womb in India. I have also shown that the womb and bowels are so intimately connected by nerves and blood-vessels, that menstruation seldom takes place without disturbing the functions of the bowels, confining them sometimes, but usually relaxing them. I pointed out that diarrhœa is sometimes a symptom of pregnancy; that severe uterine inflammation generally gives rise to obstinate constipation, or to diarrhœa, and other functional disorders of the large intestine and rectum; and this explains why, in India, for instance, diarrhœa is a more frequent symptom of pregnancy than in temperate countries, and why dysentery often complicates pregnancy, inducing

rara, as the result of tertian intermittents."—*Returns to the Author's Questions from Dr. Alleyne, late Colonial Surgeon, Demerara.*

* "Miscarriages are more frequent among the European residents in India during the hot season, and recovery is more protracted."—*Sir R. Martin on Tropical Climates.*

† Dr. Copeland ascribes the prevalence of liver diseases, amongst the European residents in tropical countries, to the liver being larger and its secretions more copious in the European, than in the Negro and in the Mongol races; but my friend Mr. Robert Clarke, who has been colonial surgeon at Sierra Leone, and who had abundant opportunities of testing the value of this assertion in hospital practice, has not observed any difference in the size of the liver, in the Negro and in the European, and Mr. Chippendale's personal observation in the West Indies confirms this statement.

abortion, either directly, or by the treatment necessary for the cure of intestinal affections, and is thus one of the most frequent causes of death, during pregnancy and shortly after delivery. Several Indian practitioners, whom I have questioned on this point, state that diarrhœa and chronic dysentery are frequently met with, either as causes, concomitants, or sequences of uterine disease in those who have taken up their abode in Eastern localities; and Dr. D. Stewart has repeatedly demonstrated by means of the speculum, to his pupils in the Native Hospital at Calcutta, that many cases admitted as dysentery were due to extensive ulceration of the neck of the womb, reacting on the rectum. In what has been previously stated I have had in view those, among our countrywomen, who are placed under the most favorable circumstances, but, if the wives of officers accompany their husbands to Upper India, they may have to march at night, travelling twenty miles, on roads that resemble the dried-up channel of a mountain-torrent, and although the spread of railways, over India, has rendered locomotion much less detrimental, still the bullock gharrie and the palanquin must be often used, and their distressing to-and-fro jerking motion aggravates the sufferings attending uterine diseases.

Secondly—What influence have tropical climates on the march of inflammatory affections of the womb, both before and after a patient's return to a temperate abode?

From what I have been able to observe, both acute and chronic inflammation of the womb tell more forcibly on Europeans when residing in a hot clime, than if suffering from the same complaint in their native country. The muco-purulent discharge and the loss of blood are more considerable both in India and after returning to Europe: the nervous symptoms are more severe and eccentric; debility and prostration of nerve-force are more intense, and felt at an earlier stage of the complaint. Such are the results of observation, and they harmonize with what might have been anticipated; for, supposing uterine inflammation to have become established in the European resident in tropical climates, from the action of the causes which I have enumerated, it stands to reason that the progress of the complaint will be accelerated by the continually recurring action of the same causes. Its march will be made more rapid owing to the gastro-intestinal affections being so common. The various forms of remittent and intermittent fevers, which constitute the "common fever" of each tropical zone, are seldom avoided,

and, as these affections single out the weakest organ, they will, for a time, give an additional impulse to the uterine inflammation, while the ever-persistent action of intense heat increases that radical debility which fosters local congestion and a low type of inflammation. Supposing the disease be met by the most judicious combination of constitutional and local measures, they will only be partially successful, so long as the patient remains subject to these climatorial conditions; indeed, practitioners assert that, in India, steel produces so much nervous irritability in women, that its exhibition cannot be continued, however well indicated by theory, and Mr. Chippendale tells me this is true in the West Indies. Dr. John Jackson, formerly physician to the Medical College in Calcutta, and Dr. Stewart inform me that, in India, steel increases uterine congestion, unless it be associated with aperients, which increase the uterine disease by irritating the bowels; this is confirmed by Dr. Kirkman Finlay for Trinidad. They admit, however, that in those anæmic or toxæmic conditions induced by agues, menorrhagia, and other causes, when the lips are colorless, steel in some form or other is absolutely necessary; the best and least exciting form being the syrup of iodide of iron. In like manner quinine is absolutely required when the discharge and the pains of uterine inflammation are much aggravated, every third or fourth day, which is reported to me as not uncommon.

If, as frequently occurs, uterine disease remains undetected or without adequate treatment, it is more likely to become worse, in a given time, than if the same patient had remained without treatment in a temperate climate. Under these circumstances, women are invalided, and they return home with constitutions much recruited, particularly if, instead of taking the more expeditious but fatiguing overland route, they make the three months' sea-voyage round the Cape. This improvement in the general health does not always tell favorably on the uterine disease, which seems sometimes aggravated by the return to a colder climate. My experience thus coincides with what has been noticed by Dr. J. Johnson and Sir Ranald Martin, with regard to the effects of a return home on other complaints; for, however plastic may be the powers of the system, it cannot accommodate itself to a sudden change of climate, and the constitution may be so debilitated by tropical influences that a return to a cold climate may cause a renewal of morbid activity on the part of a previously-diseased organ, be it womb or liver, but

I have noted nothing peculiar in the pathological aspect of the inflamed uterine tissues in those who return to England from tropical climates. The local appearances are the same, but more marked, considering the length of time the disease has lasted. In like manner, the symptoms are often worse than one would have anticipated from the duration of the complaint, which is more intractable.

Having pointed out that the progress of uterine inflammation in tropical climates is accelerated by the frequent recurrence of complicating diseases, it might be inferred that, in attending the uterine affections of those who have returned home from tropical climates, one is liable to find treatment interfered with by the remains of partially-subdued tropical complaints, such as ague, remittent fever, liver derangement, and chronic dysentery. The tendency to hepatic disorders after a return from the tropics is proverbial: chronic dysentery is scarcely less frequent, the colon and rectum being often thickened and hyperæmiated, even when not ulcerated. The pertinacity of that unknown condition of the nervous system which responds by a fit of ague to any morbid stimulus is another notorious fact, and the long-forgotten jungle-fever may be brought back after the lapse of many years by getting the feet wet in London mud. I need scarcely remind the reader of the pertinacity of anæmia in those invalided in India, if it has resisted the bracing influence of the long sea-voyage. This question of the complications by which the progress of uterine disease may be affected is not at all peculiar to the pathology of tropical climates; it arises daily in consultation practice. In the worst cases, disease has not only to be detected, but the best treatment determined on will be rendered more or less ineffectual by the intercurrent of complicating affections. Uterine disease, under some one of its various forms, may be clearly defined; but this may be only one element of the case, associated with other pathological conditions, which increase the difficulty of curing the patient.

Thirdly.—What modifications are required in the treatment of uterine inflammation in tropical climates and in tropical invalids?

1. TREATMENT OF UTERINE INFLAMMATION IN TROPICAL CLIMATES.—It is obvious, from what has been previously stated, that, on arriving in India, or any other tropical region, young women should lead a quiet life, and learn to so adapt themselves to the climate as to obviate its inconveniences and to ward off its dangers, before subjecting their constitution to any fresh trial of

strength. It would be wise to seek to reëstablish the regularity of the menstrual flow, and not to allow marriage to take place until this be accomplished. European habits of activity should be kept up so far as experience teaches them to be consistent with health; riding and driving at dawn and sunset are evidently indicated; it is for those who practise in hot climes to decide how far exercise, under solar influence, is or is not prejudicial to European women, but I fully believe what I am told by the Rev. G. P. Badger, so well known in India, not only as chaplain to the army, but as an accomplished Arabic scholar and valuable political agent, that when Englishwomen in India endeavor to busy themselves about their households, and otherwise keep up their active home habits, they generally enjoy the best health. Anglo-Indian ladies first get indolent, then debilitated; and, by way of acquiring strength, they frequently have recourse to exhilarating beverages, which produce an artificial enlivenment for a time, but tend eventually to weaken the system more than ever. So far as the male sex is concerned, exercise is not followed by the evil results which might have been anticipated, for it has been remarked by the well-known writer on military medicine, Dr. Robert Jackson, that, in the East and West Indies, European troops were never so healthy as when actively engaged under solar influence, and never so sickly as when reposing in barracks. The healthiness of the European troops engaged in the late siege of Delhi, under tremendous heat, was a matter of wonder. As far as my limited experience goes, dry heat is tonic, damp heat relaxing; just the difference between a hot-air bath and a vapor-bath, and I never felt stronger than during the ten days spent in crossing the Desert from Gaza to Cairo, in the saddle all day, at the end of May, the thermometer ranging from 100° to 120° Fahr. But the last day's march to Cairo lay through lower ground, better watered and more cultivated; and although the thermometer was actually lower, still the heat was overpowering, and thirst intolerable.

The strengthening influence of the cold bath or cold shower-bath is so well known that, except at menstrual periods, the practice should never be relinquished; indeed, I should not insist on what seems to me so obviously useful, if I had not been told that, in India, some army surgeons advise their patients not to use the cold bath, for fear of increasing uterine congestion. Even when European women are not suffering from uterine inflammation, it

would be well if, during a residence in tropical regions, they were to impart to the womb a portion of that bracing influence so largely given to the skin, by the daily use of cold water injections, by means of a vulcanized india-rubber siphon syringe; and, in case one should get out of order, it is well to have a second at command. I have been told by medical men who have practised in the East and West Indies, that, even when not inflamed, the womb is often in an irritable condition, and that the uterine and the vaginal secretions are unusually abundant: and Dr. D. Stewart even believes that there is a morbid condition of these secretions, which so reacts on the womb as to bring on inflammation. Under these circumstances, it is evident that the habitual use of cold water vaginal injections is the best preservative against uterine complaints, and the best means of enabling European women to prolong their residence in a hot climate. A change to the hills or a sea-voyage is an excellent mode of preventing uterine ailments, when they are brought on by failure of constitutional strength. I cannot withstand the conviction that many Anglo-Indian women might keep uterine disease in check, if while following their treatment they led a quiet life, during a two or three months' residence in a hill station. They are much more likely to be benefited than the invalid soldiers, whose irregular habits and want of occupation prompt their descending into the valleys, under pretence of butterfly or stick hunting.

With regard to the treatment of uterine inflammation in India, Dr. Stewart, Dr. Scott, and many other practitioners, fully adopt the principles of treatment which have been carefully explained in this work. They do not believe that the womb escapes from the general rules of pathology, and maintain that uterine diseases require local or surgical measures, as well as constitutional remedies. Indeed, they consider constitutional remedies, like quinine and steel, less useful in India than in England, and rather build their hopes of recovery upon the application of the nitrate of silver or stronger caustics to the inflamed or ulcerated surface of the womb, both in the native women and European residents. In the latter, however, it frequently happens that the constitution is so undermined by the enervating influences of climate, that, notwithstanding the best treatment, diseases continually relapse, for instance the ulcerated womb will not heal, or reopens soon after healing, so as to render imperative a return to a more bracing climate.

2. TREATMENT OF UTERINE INFLAMMATION IN THOSE WHO RETURN FROM A TROPICAL COUNTRY.—In the first place, the return by the overland route should be avoided. The overland route is one of constant excitement throughout, owing mainly to the sociality generally to be met with among Anglo-Indians. But pleasurable as that sociality is, it is greatly detrimental to the invalid, and at the expiration of the temporary excitement often leaves her more debilitated than when she left the shores of India. The long sea-voyage is eminently qualified to restore the patient's constitutional strength, upon which must ever depend the removal of local diseases. If patients will return by the overland route, they should not, at all events, travel as fast as they can, for six weeks is too short a time, to enable their debilitated organs to cope with the bracing influences of their native land, particularly if they do not reach home in summer. It would be well to linger on the road in Italy and reach home in summer. On returning home, although the uterine disease may not have greatly improved, the patients' strength has been recruited, and they feel so buoyed up by the pleasure of being again in England, that they at once enter upon a course of visiting, sight-seeing, shopping, which is too often followed by a break-down. Others are so much benefited that they believe their native air will cure them, or, being told so by their medical adviser, take no heed of the more or less constant pain in the back and vaginal discharge. I have been frequently consulted by patients, who have told me they did not like to leave England without having a medical opinion, but that they were leaving in a fortnight or a month, while on examination I have found the womb so congested, and the cervix so extensively ulcerated, that I have been obliged to forbid their return to India. Some are imprudent enough to leave off their flannels; whereas the skin requires great attention; indeed, a Turkish bath, once a week, is sometimes very useful to prevent congestion of the liver, the spleen, and the womb.

When patients, of either sex, return from India for some serious operation, they are judiciously advised by the old Indian practitioners, who reflect so much honor on British medicine, not to have the operation performed until the blood has been renovated, and the constitution braced up, by a year's residence at home; but it would be very injudicious to extend this injunction to the healing of uterine ulceration by surgical treatment. The constitution is much more liable to suffer from the continuance of an irritable sore, than

from the application of nitrate of silver, or of a more energetic caustic; but those who attend such patients must expect to find that the treatment of uterine disease will be often baffled by complications, protracting the case much beyond the usual period of its duration. This inability to recover health, notwithstanding the best treatment, constitutional as well as surgical, is, in the anæmic, to be referred to the deteriorated condition of the blood and to a thorough exhaustion of nerve-force, but recovery will reward perseverance with a well-adapted succession of tonics: one of the best is the sand-rock spring, near Ventnor, Isle of Wight, in which sulphate of iron and alumina are associated, an astringent mentioned at page 184. The pertinacity of the uterine complaint often depends on the notion entertained by patients, that, once returned to Europe, they may change a life of forced inaction, for the fatigues of social life.

Change of air, a residence at the sea-side, sea-bathing, and hydrotherapeutical appliances will often render great service, but, in some cases, the favorable progress which had at first followed a well-directed plan of treatment will be suddenly checked, without any assignable reason, until successive biliary accumulations and outpourings clearly point to chronic disease of the liver, requiring to be treated by mercurials, alkalies, tonics, and judicious regimen, otherwise the cure of the disease will make no further progress. Some patients vomit a large quantity of bile, or pass it from the bowels once or twice a month, sometimes from worry and fretfulness, often without a known cause, and this may last for several years. Sometimes the check to the favorable progress of uterine inflammation will be explained by the patient getting wet through, or suffering some severe mental shock, which brings back a return of ague or remittent fever; and the uterine disease will not yield until these complications are cut short by quinia. In such cases, when the local complaint is grafted on thoroughly broken-down constitutions, it would be injudicious to follow up the surgical treatment of uterine inflammation, until the complete removal of all uterine lesions. While these are kept in abeyance by medicated injections, the system should be improved by change of climate, mineral waters, and hydropathic treatment, with the view of inducing those constitutional changes which may cure the various complications of the case, should such changes not arise spontaneously in the course of time—the chief remover of chronic

disease. At repeated intervals, varying from three to six months, it would be well to test the progress made toward the restoration of the constitutional powers, by the effects of local treatment on the persistent uterine disease, continuing the treatment for three weeks.

During the last ten years, I have known many young women sent out to India, in whom menstruation had been habitually so irregular as to afford little chance of the maintenance of health; I have attended patients, whose health has suffered permanently, by remaining in India long after the development of uterine inflammation; others have come back to England on account of it, returning to India before the disease was quite cured, and were speedily obliged to abandon again their Eastern homes by a relapse of the old complaint; I have, therefore, been led to insist on the following practical rules:—

1. When menstruation has been habitually morbid in a temperate zone, women should not form permanent settlements in India or the tropics.

2. Those who have frequently suffered from uterine inflammation in a temperate region should not take up their abode in India.

3. When the European residents of tropical countries suffer severely from uterine disease, they should remove to a temperate climate.

4. Those who come back to Great Britain from tropical regions, invalided by uterine disease, should not return to their Eastern homes until some months after their cure, and they should time their voyage so that their arrival in India may not occur in the hot season, when abortion is most frequent, and every variety of ulceration more difficult to heal.

I feel convinced that a close adherence to these rules would prevent a large amount of disease, save a useless expenditure of money, and check the social misery which often follows the loosening of family ties by long-continued absences.

CHAPTER XIV.

PREVENTION OF UTERINE AFFECTIONS.

PREDICTION is the test of science, and uterine affections may be predicted in young women in whom menstruation is habitually bad, if, during that time, they are exposed to cold, wet, fatigue, and excitement. Uterine affections may be predicted in married women, if menstruation has been previously morbid, if they miscarry repeatedly, and if they rise too soon after abortion and parturition.

A beneficent Providence never intended woman to suffer so much as they do, for two-thirds of the diseases of the reproductive organs are preventable complaints; but if women come of an unhealthy stock; if they be injudiciously brought up; if the menstrual function be recklessly interfered with; if they be imprudently given in marriage; miscarriages made light of, and insufficient time allowed for the womb to recover itself after the tremendous labor of gestation and parturition, they must expect to suffer from the various forms of uterine disease.

The efforts of medical men have been always directed as much to the prevention of diseases as to their cure, and it is not our fault if legislators have only just begun to listen to our repeated call for sanitary measures. We, each in our own sphere, spend our lives in telling people how to prevent disease, but the advice is not acted upon. I know that, as a rule, it is not of much use to fight against stupidity, ignorance, and passion, but I will try to recapitulate the best means of preventing the most frequent diseases of women. It may save some of them much misery, and, at all events, it is the appropriate termination of a work, endeared to me by great labor. I know that it is perfectly useless to do more than allude to one

cause of uterine disease—an ill-assorted marriage, from a pathological point of view; but so long as cattle are bred with great care, upon physiological principles, while fancy, money, and family interests govern marriage, so long will there be diseases, and sometimes incurable diseases, of the womb. I only affirm for the female organs of generation what is true of every other organ. As a result of an anti-physiological marriage there may be a primary inherent defect in the structure or vital endowment of the ovaries and the womb, which may render them more or less inapt to well fulfil their functions, and more or less prone to relapse after having once been seriously diseased. After thus hinting at an important cause of disease, it remains for me to show that uterine disease can be prevented :

1. By a judicious system of education.
2. By careful management of the menstrual function.
3. By marriage, and by a right understanding and performance of the duties of married life.
4. By the careful management of pregnancy, miscarriage, parturition, and lactation.

1. A JUDICIOUS SYSTEM OF EDUCATION.—No one will deny that a judicious system of education is the best means of maintaining an originally good constitution, and the only way of improving a bad one. I have fully treated this subject in my work on “Elements of Health and Principles of Female Hygiene.” To this work I must refer the reader who may wish to study the art of preventing diseases of women. I will, however, add a few lines upon an interesting subject.

GYMNASTICS.—Gymnastics are as useful to strengthen the constitution of women as of men. The reports of the medical officers of the large “Hôpital des Enfants” at Paris, prove that diseases of the structure have become much less frequent and less severe, since the girls have been daily exercised in the gymnasium attached to that institution. When I advocate gymnastics for girls and young women, I mean a well-devised system of muscular movements, such as I have seen practised in Mahomed’s Gymnasium at Brighton. High jumping and lofty climbing, suitable for sailors and firemen, would be out of place. The calisthenic exercises that are taught by dancing-masters, are a substitute for gymnastic exercises; riding is excellent, and the instinctive craving for dancing, in young women, clearly shows the great

utility of that and other rhythmic muscular movements. Men and boys, with twopence in their pocket, can have a beautiful swimming-bath in our metropolitan baths, but women, however rich, can have nothing of the kind in London, and they must go to Brill's, in Brighton, to enjoy that luxury. In London, there are many thousands of young ladies to whom it would be both useful and agreeable to have a good swim, once or oftener in the week, and a large, handsome, swimming-bath, might as easily be made as any other building.

2. CAREFUL MANAGEMENT OF THE MENSTRUAL FUNCTION.—The knowledge that menstruation is a natural function, does mischief; for those who do not suffer during menstruation, will not submit to any restraint being placed upon their usual liberty of action; and those who suffer much, will not seek advice, supposing that it is incumbent on them to bear the pain of a natural function. It cannot be too strongly impressed upon the mind of young women, from the first period of menstruation, that, however well they may feel, *they should do less than usual*, at that time. This advice applies to all classes of society; the higher should avoid physical fatigue and over-excitement, and, therefore, long walks, shopping, riding, dancing, parties, and theatres. Though it has been shown at page 182, that cold applications do not always check the menstrual flow, women should be careful of getting wet, of remaining in draughts, of taking iced and cold drinks, and of putting on damp linen; for they often suppress the menstrual flow and congest the womb. A gentle purgative may be useful just before menstruation; but the too frequent use of purgatives may increase or check the flow, and all other medicines should be discontinued, unless the contrary be specially ordered. If the menstrual flow becomes too abundant, it is well to remain on the sofa; if it stops too soon, a brisk walk, a tumbler of hot negus or brandy-and-water, or placing the feet in hot water, may bring it back. If menstruation be habitually morbid, irregular in date, too scanty, too abundant, or too painful, then the case must be treated according to the principles laid down in the chapters on Emmenagogues, Hæmostatics, and Sedatives; and it must be carefully borne in mind, that all married women, in whom sterility is caused by uterine disease, have previously long suffered from morbid menstruation; and, as to insure its right performance is the best way to prevent uterine disease, so these precautions should be adopted by married women, partic-

ularly during the first period of wedded life, if they value their chances of maternity. Conception frequently takes place, the menstrual flow stops, but no care is taken to avoid over-excitement, over-fatigue, purgatives, or connection; and, after a few days, there is an abundant, prolonged discharge, which is supposed to be menstruation, but is really a miscarriage, and this cannot be often repeated without leading to serious mischief. Both married and single should be made aware that, if they have once had a severe attack of uterine inflammation, nothing is more likely to rekindle it than menstrual congestion, which often aggravates every form of uterine disease; and still more so, if the menstrual flow be interfered with by any baneful influence. The relapses of chronic internal metritis generally occur at menstrual periods, and are frequently to be attributed to the patient's imprudence. While penning these remarks, I learn that a patient, who had suffered more or less from this complaint for four years, and who had so far recovered as to be able to withstand the loss of two children, and bear the imprudent climbing of the Malvern and Welsh hills, was so injudicious as to walk about the International Exhibition from ten till four, at a menstrual period, although abdominal pains were sharp. This brought on a severe relapse, and kept her in bed for three weeks. Another lady, similarly affected, owes a bad relapse to riding on horseback on the first day of menstruation. One can hardly conceive the amount of imprudence committed by women at menstrual periods, and yet they wonder at being ill and complain of the frequency of relapses, whereas I wonder their frequency is not greater. Three-fourths of my patients leave off treatment before they are quite cured. Treatment is tedious and expensive; so when considerable improvement has been obtained, many patients give up treatment, trust to Nature, live as usual, relapse, and abuse medicine.

3. A JUDICIOUS MARRIAGE.—The salutary influence of marriage has been mentioned: debility is often soon removed if it be not caused by organic disease, and marriage also sometimes renders menstruation normal, although it had previously been habitually morbid. In the chronic stages of uterine and ovarian inflammation, it does more good than harm, sexual intercourse being well borne when a digital examination was painful. It is easier to prove the benefits of marriage than to measure accurately the evils of celibacy; which, I believe, to be a fruitful source of uterine disease in

some women, for, after all, the sexual instinct is a healthy impulse, claiming satisfaction as a natural right. Our present state of civilization is full of conditions and circumstances that intensify this instinct; and if it does not receive its legitimate satisfaction, women of strong passions are placed in a permanent state of conflict, which is accompanied by increased irritability and congestion of the sexual organs. Then arises a struggle between conscience and instinct: some seek relief in imitating what is denied them; others achieve a victory over passion, but the victory is dearly bought. Despondency at having to renew the fight, irritability of temper at the thoughts of being less fortunate than others, may cause prostration, and an endless variety of hysterical symptoms. This is what I have frequently observed; and sometimes a virtuous woman, in a state of sub-delirium, will blaspheme against friends, relations, social arrangements, and religion, without retaining the knowledge of having done so, when she becomes herself again.

Although marriage be a preventive of uterine disease, it may nevertheless produce it in various ways, if not judiciously ordered, for marriage should not be contracted either too early or too late in life. By too early, I mean before twenty-one, until which time the female system has not acquired its full development, nor the bones their perfect solidity. I have traced the influence of early marriage, in many cases of uterine and inflammatory affections; and it stands to reason, that there will be a greater chance of miscarriages, when the processes of reproduction are confided to immature organs. Indeed, it is not uncommon for women married at seventeen, to begin by several miscarriages, and only to bear children on attaining the age at which it would have been prudent for them to marry. Late marriages are less frequent and less fatal; but I can corroborate B. de Boismont's assertion, "that whenever sexual impulse is first felt at the change of life, some morbid ovario-uterine condition will be found to explain it in nineteen out of twenty cases." A patient of mine, who had never had a day's illness, married at fifty, when menstruation had become very irregular; she was laid up with flooding the day after her wedding, and when that was checked, she went out of her mind for six months. Another lady, who looked and felt perfectly well, married at forty-eight, but flooding set in two days after her wedding-day. In this case, marriage unmasked uterine cancer, which had not been suspected, and the patient died within the year. I have lately

prevented a lady marrying at fifty, on account of a large un ulcerated and painless cancer of the womb, with which she may live two or three years, whereas marriage would have shortened her life. These instances are sufficient to show how imprudent it is to marry at the change of life, without the sanction of a medical opinion.

Matrimonial intercourse is often at first painful, and a source of more or less local and general disturbance; so it would seem reasonable, if, for a few months after marriage, women kept quiet, and lived in a comparative state of seclusion, instead of striving to sow within themselves as many seeds as possible of future mischief. The succession of visits and gayeties in honor of the bride, the joltings on bad roads, sight-seeing, and other fatigues of Continental travelling, are well calculated to bring on early miscarriage and the suppression of menstruation, which lead to chronic disease. Too frequent connection is said to cause uterine inflammation; and this may be correct when the pelvis is shallow, and the vagina short, which may cause more or less contusion of the os uteri. It is generally admitted that married people should sleep apart when there is inflammation of the body or neck of the womb, and I have certainly seen the cure of ulceration of the womb protracted by the continuance of matrimonial habits, particularly when the womb descended low, and connection was painful. Young married women have told me they had been previously advised to persevere, notwithstanding the painfulness of connection, and that abstaining for a time would only render connection more painful when resumed; but this advice was given without a careful examination, which would have led to the discovery of acute inflammation of the womb. One might as well tell a man with a broken leg that rest was useless. When the body of the womb is inflamed, connection is generally very painful, and often brings on a relapse; but when connection is not painful, I am much less particular on this point than when I began practice, having observed that intercourse is rather beneficial than otherwise, in chronic inflammation of the womb, in patients of strong temperament, and in those subject to hysteria. It is said that, by connection, an additional excitement is given to an organ already too excited; but in some women connection is the most powerful means of appeasing irritation attending congestion. One must always remember that it is a question of a natural appetite; and that, insomuch as a diseased stomach is made worse by

the want or insufficiency of food, so diseases of the reproductive organs may be made worse by the absence of their accustomed stimulus. Thus I have seen women, who suffered so much from chronic uterine inflammation that I should have been very sorry to have sanctioned their marriage, certainly improved by it. One of my patients suffered much from hystericalgia on the loss of her husband: every thing was tried without success, and after many years of suffering she married again, when a marked improvement immediately followed, and she recovered in three months. I have also repeatedly observed that widows, who were subject to relapses of uterine congestion and uterine exulceration, lost all symptoms of this disease after remarriage. If it were said that these were mere instances of unsatisfied sexual orgasm, I should mention that another patient who suffers severely from ovaritis and internal metritis, with the neck of the womb soft, swollen, and exquisitely sensitive to the finger, has no pain on connection; it does not make her worse, greatly relieves many of her distressing nervous symptoms, and is often followed by seven or eight hours' sound sleep: so that sometimes strong passions warrant connection, notwithstanding rather acute uterine disease.

4. PREGNANCY.—Pregnancy has a real curative influence. It often cures those little understood conditions of the ovaries, to which I have drawn attention as ovarian irritability, and subacute ovaritis. It cures them, by reducing these organs to a state of inactivity for nine months, and for the further period allotted to lactation. As pregnancy gradually softens the firm tissues of the healthy cervix, so it often softens the neck of the womb when enlarged and hardened by hypertrophy or chronic inflammation. This has been denied by Duparque and Lisfranc; but experience teaches me that there is a fair hope that the densely-organized plasma may be softened by the processes of gestation, and gradually swept away by a rapid process of absorption, similar to that which so speedily reduces the enormous volume of the gravid womb. This is less surprising than the statement of Scanzoni, that he found a fibrous tumor of the womb, as large as a man's head, which he had been unsuccessfully treating for eleven years, vanish entirely without bodily expulsion, six weeks after delivery. A similar case is mentioned by Dr. M. Sims. Such cases can only be doubted by those who have not felt the singular amount of softening and infiltration to which such tumors are liable during pregnancy. Any

imprudence of the patient during the puerperal period may check this fortunate result; and I believe that there is a great chance of correcting uterine displacements if the patient be kept on her back for six weeks or two months after delivery, cooling or astringent injections being made so soon as the discharge ceases to be red. I have seen the plan successful in three cases of marked anteversion, in two of retroversion, and in one of antelexion. Scanzoni mentions three cases of antelexion cured by pregnancy; and Dr. Goupil states that he distinctly made out retroflexion of the womb in two women, but that, on examining them carefully two or three months after parturition, there was no trace of retroflexion. It has been shown that uterine displacement diminishes the chances of pregnancy; but should it occur, it may thus be made highly conducive to the rectification of the displacement, the more so as this rectification may be consolidated, by the physiological repose of the womb, during the following months so long as lactation checks menstruation. While thus ascribing to pregnancy a more beneficent influence than is generally allowed, it is equally evident that inflammation of the womb is frequently produced by abortion or parturition; and I am certainly not overstating the fact in affirming that two-thirds of the serious cases of uterine inflammation can be traced to a bad miscarriage or a confinement. The prevention, therefore, of uterine disease, in married women, is tantamount to the judicious management of pregnancy, abortion, and parturition.

Women make no difference in their habits of life, whether they be pregnant or not; and if some do so with impunity, many miscarry from over-exertion and over-excitement. The way to prevent miscarriages is to lead a quiet life, particularly during those days of each successive month, when, under other circumstances, they would menstruate; and to abstain during those days, not only from long walks and parties, but also from sexual intercourse. Miscarriage gives rise to more aggravated forms of uterine inflammation than parturition, because, in the first, there is a greater amount of bruising and laceration of the unsoftened neck of the womb, whereas, when parturition occurs at the full time, it is not lacerated, unless by the unnaturally large head of the child, too precipitate labor, or by the injudicious use of instruments. Parturition generally insures to the womb a long period of repose and absence of congestion, during which the bruised or lacerated cervix soon heals, in healthy women. When, however, women miscarry, the heal-

ing processes of Nature are interrupted by the congestion of menstruation and by speedy conception; for our social habits do not, unfortunately, enforce the sleeping apart of man and wife, for a month after a miscarriage, as after a confinement. It is unfortunate for women that the public make so light of miscarriages; but the profession is aware that post-partum involution will require time after the expulsion of the fœtus. If this process be interfered with by premature conception, the uterine tissues suffer from being made the seat of conflicting physiological tendencies, and this may account for the uterine deviations which sometimes follow abortion, and certainly explains subsequent miscarriages. After miscarriage, I make a point of advising the same emollient or cooling injections to be made twice a day, as if women were suffering severe uterine inflammation. I do the same after parturition, as soon as the lochial discharge ceases to be bloody; and if this plan were generally adopted, it would prevent a large portion of the uterine disease that we are now called upon to treat, and could do no harm even when unnecessary. Those who suffer most from prolapsus and other displacements are the poor, who are obliged to get up on the ninth day, and, with an over-weighted womb, to stand about for many hours; and the inference is obvious. The foregoing observations relate to women miscarrying and bringing forth children, the womb being healthy; but if it has previously suffered from inflammation, or gives evidence of some perverse endowment of tissues leading to constant morbid menstruation, then the chance of miscarriage and parturition causing inflammation, is much greater, and they may do so rather by an exaggeration of pathological tendencies than by traumatic agency. Still greater care will be required in such cases, and it would be well to examine the patient after a month, so as to treat disease, should it exist, by surgical remedies. It must never be forgotten that the worst cases of uterine inflammation and ulceration are the result of parturition; and that parturition is a natural function. The prolonged debility, pelvic pain, and uterine discharge, that constitute "the bad getting up" do not sufficiently alarm the patient; the doctor treats her for leucorrhœa and dysmenorrhœa; and he sometimes only discovers the nature of the complaint many years afterward, when the aggravation of the symptoms renders an examination imperative.

That women should suckle their own children is to them often a pleasure, and always a duty, the neglect of which is sometimes

severely punished. I have already alluded to the good effects of lactation in subacute ovaritis and in uterine displacements. Lactation can be continued in most cases of uterine inflammation, but sometimes a chronic state of subacute inflammation of the womb and diarrhœa seem to be kept up by lactation, and I have had to advise weaning, because lactation prevented the healing of an ulcerated womb.

FORMULARY.

It has been my endeavor to substitute definite quantities of active remedies for the uncertain preparations in general use, and to introduce elegant preparations in the place of some that are needlessly filthy. For instance, the extract of belladonna is a very valuable remedy, but, in prescribing it, we do not know how much we give of its active ingredient; whereas, sulphate of atropia may be prescribed with precision. The smell of ointments or liniments made with extract of belladonna, when largely applied to the abdomen and the breasts, often prevents sleep: and they are so filthy that women cannot be persuaded to continue their use; whereas, those containing sulphate of atropia may be as clean and inodorous as cold cream. To render remedies less offensive is an effectual way of shortening disease, and the valuable properties of glycerine have enabled me to fulfil this object to a great extent; for, whether as a demulcent, an antiseptic, or as a convenient excipient of active remedies, the substance known as Price's glycerine enters largely into many of the following prescriptions, and, with respect to these, I am much indebted to the pharmaceutical experience of Mr. Bullock, of Hanover Street.

LOTIONS.

Linen or lint may be moistened with either of the following lotions, and then applied to the seat of pain covered with a larger piece of oil-silk. Impermeable lambskin may be likewise used, or piline.

Morphia Lotion.

- | | |
|-----------------------------------|---------|
| 1. Hydrochlorate of morphia . . . | gr. 10. |
| Spirit of wine . . . | 3 4. |
| Distilled water . . . | to ℥ 4. |

Atropia Lotion.

2. Sulphate of atropia	gr. 4.
Spirit of wine	3 4.
Distilled water	to 3 4.

Raspail's Sedative Lotion.

3. Liquid ammonia	3 2.
Camphorated spirit of wine	3 2½.
Common salt	3 2.
Water	3 32.

The salt is dissolved in the water, the solution filtered, and mixed with the other ingredients; the lotion should be kept in a well-closed bottle. It may be used by means of a small sponge, or a pad of soft linen may be soaked in it, and applied to the painful part, renewing it as often as may be required. If the lotion irritate the skin too much, water may be added. This is a valuable application in cerebral affections.

Spirit of Ammonia Lotion.

4. Liquid ammonia	3 4.
Laudanum	3 2.
Water	a quart.

Applied freely as a lotion, this is useful to allay the irritation of nettle-rash, and other cutaneous affections; and great invalids, who have lost the habit of daily ablution, will also find it beneficial.

LINIMENTS.

Oil is much better than glycerine as the constituent of liniments.

Sedative.

5. Sulphate of atropia	gr. 4.
Sulphate of morphia	gr. 8.
Otto of roses	gtt. 2.
Spirits of wine	3 ss.
Olive-oil	to 3 4.

This liniment should be shaken before it is used; it is expensive, for sulphate of atropia is now sold at tenpence a grain, but I prefer the sulphate of atropia, because it is more soluble than atropia.

6. Sulphate of atropia . . .	gr. 8.
Sulphate of morphia . . .	gr. 16.
Aconitia	gr. 2.
Dilute sulphuric acid . . .	℥ 5.
Spirit of wine	℥ ss.
Olive-oil	to ℥ 4.

Sedative and Stimulant.

7. Chloroform	℥ ss.
Spirit of turpentine, or fir-wood oil	℥ 1.
Camphor	℥ 2.
Oil of lavender	℥ 20.
Olive-oil	to ℥ 6.

The first four ingredients should be mixed before adding the oil, and the liniment should be well shaken before it is applied.

The liniments of aconite, belladonna, opium, and camphor, which have been introduced into the British Pharmacopœia, are valuable preparations, whether they be used alone or combined with glycerine or glycerine ointment.

OINTMENTS.

Common lard becomes rancid, so it is best to prescribe benzoated lard; but I prefer glycerine ointment, which looks like arrow-root jelly, and is made by boiling starch in glycerine. Every kind of starch makes a very serviceable product, but Brown and Polson's corn-flour gives the most satisfactory result. Glycerine ointment is stable, inodorous, clean, and is capable of holding, in solution or suspension, all the agents usually incorporated with lard. This preparation does not become rancid like fatty substances, does not soil the body-linen, and can be instantaneously removed by means of a damp towel. It has been objected to glycerine ointment, that it is too absorbent of moisture to be useful; but it only becomes liquid if kept too long, and thus suggests to the pharmacist the advisability of not making a large quantity at a time, and of keeping it closely covered up. It has been used in France under the name of *Plasma*, or *Glycerat d'amidon*, and has been extensively prescribed by my friend Mr. Henry Lee, and Dr. Symonds and Dr. W. Budd, of Clifton. Mr. Schacht, of that town, wrote a paper on the subject, which will be found in the *Pharmaceutical Journal* for 1858, and this valuable preparation has been introduced into the British Pharmacopœia.

Simple Glycerine Ointment.

8. Take of Polson's corn-flour . . . gr. 80.
 " Price's glycerine . . . $\frac{3}{4}$ l.

Mix the starch with the glycerine in a gradually-heated oil-bath by constant stirring, until the production of a semi-transparent gelatinous mass.

Veratria.

9. Veratria gr. 2.
 Otto of roses gtt. 1.
 Glycerine 3 ss.
 Glycerine ointment $\frac{3}{4}$ l.

A piece about the size of a filbert, rubbed into the skin above the pubes, every day, is useful in dysmenorrhœa and dysuria.

Atropia.

10. Sulphate of atropia gr. 2.
 Glycerine 3 ss.
 Oil of neroli gtt. 4.
 Glycerine ointment $\frac{3}{4}$ l.

This or the following ointment may also be used as above for the pelvic and spinal pains of uterine diseases.

Belladonna.

11. Belladonna liniment 3 2.
 Glycerine ointment $\frac{3}{4}$ l.

Morphia.

12. Acetate of morphia gr. 10.
 Glycerine 3 ss.
 Otto of roses gtt. 1.
 Glycerine ointment $\frac{3}{4}$ l.

Iodide of Potassium.

13. Iodide of potassium gr. 60.
 Calcined magnesia gr. 5.
 Otto of roses gtt. 1.
 Water 3 l.
 Glycerine ointment $\frac{3}{4}$ l.

To be rubbed into the skin of the lower part of the abdomen twice a day. The calcined magnesia is added to prevent the staining of the linen, which is caused by the acid secretions of the skin liberating a small portion of iodine.

Mercurial.

14. Sulphate of atropia . . .	gr. 2.
Sulphate of morphia . . .	gr. 4.
Olive-oil	3 l.
Oil of lavender	gtt. 10.
Strong mercurial ointment . .	℥ 1.

Mercurial ointment made with glycerine plasma does not become rancid, and is therefore far preferable to that which is made of grease; but, at all events, the above is not made additionally repulsive by the smell of laudanum and of the extract of belladonna. A piece about the size of a small walnut is to be rubbed in morning and evening, and absorption will be promoted by leaving the residue on the skin, and by placing over it a warm linseed-meal poultice.

EXTEMPORANEOUS PLASTERS.

It occurred to me that, by boiling a larger quantity of starch in the same quantity of glycerine, the ointment might become stiff enough for plasters, and the result was a very firm and tenacious compound, well calculated to make *readily-made plasters*, not open to the objections raised against those in common use, which either do not stick at all, or stick so firmly that their removal is difficult. Some of them also smell so disagreeably as to interfere with a patient's sleep, while others cause skin-irritation. While wearing the readily-made glycerine plasters, the patient may continue using the sponge-bath, or any other bath that may be advisable, as there is no difficulty in removing and replacing the application. This hard glycerine ointment is capable of holding, partly in solution, partly in suspension, all the ingredients of the plasters now in use. It can be made softer by being rubbed up with a little glycerine, and I tell the patient to spread it thickly with a paper-knife on gutta-percha cloth. Before reapplying the plaster, it is well to spread over it a little more ointment, and the gutta-percha cloth, as well as the skin, can be speedily cleaned with a sponge and tepid water.

Simple Glycerine Plaster.

15. Take of Polson's corn-flour . .	gr. 100 to 120.
“ Price's glycerine . . .	℥ 1.

Boil the starch in the glycerine in an oil-bath, and stir until the production of a stiff, semi-transparent mass. By rubbing this

down with glycerine it will acquire the consistency of an ointment, and may be used as such.

Atropia Plaster.

16. Glycerine plaster $\frac{3}{4}$ 1.
Sulphate of atropia gr. 4.

Veratria may be used in similar proportions, but I have ordered double the quantity of acetate of morphia. The alkaloid salt is to be rubbed down with a few drops of glycerine till perfectly smooth; it is then to be carefully incorporated with the ointment, and spread thickly on gutta-percha cloth, like an ordinary plaster.

Compound Sedative Plaster.

17. Sulphate of atropia gr. 8.
Veratria gr. 3.
Sulphate of morphia gr. 8.
Glycerine plaster $\frac{3}{4}$ 1.

To be made as above.

VAGINAL INJECTIONS.

Emollient injections should be used tepid, and I frequently advise a teaspoonful of laudanum to be added to each pint of fluid that is injected.

Milk, or milk-and-water, is an excellent injection; so is tepid water, adding to it a teaspoonful of laudanum.

Poppy-head Injection.

18. Bruised poppy-heads $\frac{3}{4}$ 4.
Water four pints.

To be boiled for fifteen minutes and carefully strained. This decoction is useful by reason of the mucilage it contains, as well as a small quantity of opium.

Linseed Injection.

19. Slightly-bruised linseed $\frac{3}{4}$ ss.
Water three pints.

Gently boil it for ten minutes, and carefully strain it, for the fragments of the seeds are apt to obstruct the pipe of the syringe, and render it necessary to send it to the instrument-maker.

SEDATIVE INJECTIONS.

It is easy to increase the sedative action of these injections by increasing the quantity of laudanum to two or three drachms to the pint, and by combining the laudanum with the tincture of henbane.

COOLING INJECTIONS.

To a pint of water at 70° F. should be added either a drachm of biborate of soda, chlorate of potash, acetate of lead, or the liquid subacetate of lead. To these solutions I always add a teaspoonful of laudanum, and also a tablespoonful of glycerine, when the skin is irritable or the discharge acrid.

Mr. Weeden Cooke ascribes great healing properties in the treatment of cancer to the following lotion:

20. Chlorate of potash	℥ ss.
Diluted hydrochloric acid	℥ 40.
Battley's solution of opium	℥ 2.
Water	to ℥ 20.

ASTRINGENT INJECTIONS.

Their temperature should not be higher than 60° F., and lower if the patient can bear it.

Oak Bark.

21. Oak bark	℥ 1.
Water	two pints.

To be boiled down to one pint, and strained.

An infusion of green tea also makes a good injection; and another may be instantaneously prepared by dissolving from 30 to 60 grains of tannin in a pint of cold water.

One drachm of the mineral astringents, such as alum, iron-alum, or perchloride of iron, in a pint of cold water, forms an excellent astringent injection; and another can be made by adding to the same quantity of water one drachm of alum and ten grains of sulphate of zinc.

ANTISEPTIC INJECTIONS.

22. Solution of chlorinated soda	℥ 1.
Water at 60° F.	one pint.
23. Permanganate of potash	℥ 1.
Water at 60° F.	one pint.

To these injections, a drachm of laudanum and a tablespoonful of glycerine should be added, to render the injection less irritating to the ulcerated surface of the womb, and the discharge less offensive to the skin.

24. Liquor carbonis detergens . . . ℥ 2.
Water at 60° F. one pint.

This is a very valuable antiseptic, and a very weak solution of carbolic acid, in water, is also useful as an injection.

Creosote.

25. Creosote ℥ 20.
Yolk of egg 1.
Water to ℥ 8.

Half of this to be added to a pint of water.

ANTISYPHILITIC.

26. Iodide of potassium gr. 120.
Laudanum 3 1.
Water to a pint.

To be used in tertiary symptoms of syphilis. The iodide should be dissolved in the water, and the laudanum afterward added.

EMMENAGOGUE.

27. Liquid ammonia ℥ 20.
Tepid milk ℥ 6.

When the injection is made, the pelvis should be well raised, and the labia pressed, so as to retain some of the injection for five minutes.

IODINE VAGINAL INJECTIONS.

28. Tincture of iodine,
Laudanum, of each ℥ 2.

One or two teaspoonfuls to be added to a pint of water, to be used once or twice a day.

Iodine Injection into Fibrous Tumors.

(Dr. Savage's.)

29. Iodine 3 1.
Iodide of potassium 3 2.
Rect. spirits of wine ℥ 2.
Distilled water ℥ 6.

Intra-uterine injections.

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|---------------------------------|------------------|
| 80. Tincture of iodine | $\frac{3}{4}$ 1. |
| Distilled water | $\frac{3}{4}$ 1. |
| 81. Perchloride of iron | 3 4. |
| Bicarbonate of soda | gr. 10. |
| Distilled water | $\frac{3}{4}$ 4. |

I prefer a solution of the solid perchloride of iron, to the solution of perchloride of iron of the British Pharmacopœia.

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|-------------------------------|------------------|
| 82. Nitrate of silver | gr. 40. |
| Distilled water | $\frac{3}{4}$ 2. |

HYPODERMIC INJECTIONS.

Atropia.

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|---------------------------------|-------------------------------|
| 83. Sulphate of atropia | $\frac{1}{16}$ th of a grain. |
| Distilled water | gtt. 80. |

This is the initial dose for a woman.

Morphia.

- | | |
|--------------------------------|------------------------------|
| 84. Acetate of morphia | $\frac{1}{4}$ th of a grain. |
| Distilled water | gtt. 80. |

Although, in all probability, larger doses may be well borne, the initial dose should not exceed one-sixth of a grain.

ENEMATA.

Emmenagogue.

- | | |
|-----------------------------|------------------|
| 35. Barbadoes aloes | gr. 10. |
| Tepid milk | $\frac{3}{4}$ 3. |

To be injected twice a day, when the menstrual flow is due, until it comes, or until tenesmus becomes unbearable.

Sedative.

- | | |
|---|------------------|
| 36. Battley's solution of opium | 3 1. |
| Tincture of henbane | $\frac{3}{4}$ 1. |
| Water | $\frac{3}{4}$ 3. |

One tablespoonful of this, or double the quantity, to be added to a little warm milk, and to be given by means of a two-ounce india-rubber bottle.

VAGINAL SUPPOSITORIES.

Cocoa-butter has been used in France for the last thirty years, but its value for the confection of suppositories has only lately been recognized in England.

The following is the list of the vaginal suppositories or pessaries made by Messrs. Duncan and Flockhart, of Edinburgh:

Atropia	Sedative	1-20	of a grain.
Opium	do.	2	grains.
Morphia	do.	0 $\frac{1}{4}$	grain.
Bismuth, oxide	Cicatrizing and emollient	15	grains.
Borax	do.	15	do.
Zinc, oxide	do.	15	do.
Tannin	Astringent	10	do.
Alum	do.	15	do.
Alum and catechu . . .	do.	15	do. of each.
Do. iron	do.	10	do.
Acetate of lead	do.	7 $\frac{1}{2}$	do.
Do. and opium	do.	5	do. 2 gr. opium.
Matico	do.	10	do.
Sulphate of iron (dried) .	do.	10	do.
Gallic acid	do.	10	do.
Perchloride of iron . .	Hæmostatic	5	do.
Persulphate of iron . .	do.	5	do.
Sulphate of zinc (dried) .	Caustic	10	do.
Carbonate of soda . . .	Antacid	15	do.
Carbonate of lime . . .	Deodorant	5	do.
Iodide of lead	Alterative and resolvent	5	do.
Do. and atropia	do.	5	do. 1-20 atropia.
Do. potassium	do.	10	do.
Bromide of potassium . .	do.	10	do.
Mercurial	do.	30	do. (<i>Ung. Hyd.</i>)

EMMENAGOGUE SUPPOSITORIES.

37. Aloine	gr. 2.
Cocoa-butter	gr. 10.

MERCURIAL CAPSULES.

The most convenient way of placing mercury in contact with the womb is for the patient to introduce high up into the vagina one of the mercurial capsules which are sold by Mr. Twinberrow, of Edwards Street, an injection being used the following morning.

CHLOROFORM CAPSULES.

They afford the best way of placing chloroform in contact with the neck of the womb, and they are made by Messrs. Duncan and Flockhart.

RECTAL SUPPOSITORIES.

38. Extract of henbane gr. 8.
 Extract of belladonna gr. $\frac{1}{4}$.

To be made round, coated with cocoa-butter, and to be introduced at night. This is the suppository I most frequently prescribe, for it relieves pain without constipating.

39. Extract of opium gr. 1.
 Extract of henbane gr. 2.

To be made in the same way and used in the same manner as the last.

40. Extract of opium gr. 1.
 Extract of belladonna gr. $\frac{1}{4}$.

To be made and used like the preceding, and I seldom prescribe any other rectal suppositories.

MIXTURES.

Sedative.

41. Tincture of castor 3 ℥.
 Compound tincture of lavender . 3 ℥.
 Camphor mixture to $\frac{3}{4}$ ℥.

A tablespoonful two or three times a day when cerebral symptoms and hysterical phenomena are marked.

42. Hydrochlorate of morphia . . gr. 1.
 Diluted hydrocyanic acid ℥ 24.
 Spirit of wine 3 ℥.
 Distilled water to $\frac{3}{4}$ ℥.

One or two tablespoonfuls alone, or in a small effervescing draught when there is sickness.

Anaphrodisiac.

43. Tincture of lupuline 3 ℥.
 Tincture of digitalis 3 ss.
 Cherry-laurel water $\frac{3}{4}$ ss.
 Distilled water to $\frac{3}{4}$ ℥.

A tablespoonful every third or fourth hour.

Tonic.

44. Hypophosphite of soda . . . gr. 20 to 80.
Compound infusion of gentian . $\frac{3}{4}$ 6.

Two tablespoonfuls to be taken twice a day, just before meals.

Emmenagogue.

45. Oil of savine 3 1.
Nitric ether 3 8.
Mucilage $\frac{3}{4}$ 1.
Water to $\frac{3}{4}$ 6.

A teaspoonful being given every two hours, after shaking the bottle, when the patient is half comatose from suppressed menstruation.

I can also recommend one of Dr. G. Bedford's prescriptions:

46. Tincture of ergot 3 ss.
Syrup of saffron $\frac{3}{4}$ ss.
Compound decoction of aloes . . $\frac{3}{4}$ iss.

A teaspoonful being given three times a day.

Another preparation, due to Paracelsus, is worth a trial, the dose being from two to three drachms, twice a day, with a little water:

47. Tincture of myrrh 4 parts.
Tincture of saffron 8 parts.
Tincture of aloes 8 parts.

Hæmostatic.

48. Gallic acid gr. 24.
Battley's solution of opium . . . ℥ 20.
Tincture of matico 3 8.
Infusion of orange-peel . . . to $\frac{3}{4}$ 6.

A tablespoonful every two hours.

I can also speak well of the following prescription, which chiefly differs from one recommended by Mr. Bradley, of Martley, by the addition of the tincture of ergot:

49. Turpentine, or fir-wood oil . . . $\frac{3}{4}$ ss.
Tincture of capsicum 3 ss.
Tincture of ergot 3 1.
Comp. tinct. of lavender . . . $\frac{3}{4}$ 2.

In cases of hæmorrhage, from half a drachm to a drachm of

this mixture is to be given in milk, after shaking the bottle; but in severe flooding after parturition, Mr. Bradley has given as much as half an ounce to an ounce, in plenty of milk, and with good results. The French have a more elegant way of giving turpentine, in capsules; each capsule contains eight drops of essential oil, and the dose is two or three in the twenty-four hours.

Antisyphilitic.

50. Iodide of potassium gr. 20.
Compound decoction of sarsaparilla . $\frac{3}{4}$ 4.

To be taken, in the course of the day, for tertiary symptoms of syphilis.

Syrups.

The following are very convenient preparations, from a half to a whole teaspoonful being given in a little water, twice a day after meals:

- Syrup of hypophosphite of quinia and soda.
" " " quinia and iron.
" " " quinia and iron and strychnia.
" " citrate of iron.
" " citrate of iron and quinia.
" " iodide of iron and potassium.
" " albuminate of iron and potassa.
" " superphosphate of iron, quinia, and strychnia.

This last preparation contains two grains of iron, one of quinia, and the thirty-second part of a grain of strychnia to each fluid drachm.

GRANULAR MEDICINES.

The granular effervescent preparations of citrate of quinia, citrate of iron and quinia, etc., which have been introduced by Mr. Savory, are valuable remedies, particularly in summer.

Messrs. Twinberrow have recently prepared the ferri citras c. strychnia, ferri citras c. quinia et strychnia, in a granular and effervescent form. The citrate of iron with strychnia contains the $\frac{1}{32}$ of a grain of strychnia to the drachm, while the citrate of iron with quinia and strychnia contains one grain of quinia, and the same amount of strychnia as the first-named preparation. They constitute very convenient and elegant preparations for the administration of iron, strychnia, and quinia, and grateful to the

stomach, and conceal to a great extent the bitterness of the two latter remedies.

P I L L S .

Sedative.

51. Extract of henbane gr. 8.
Liquorice powder, as much as is sufficient.

One or two of these pills or of the following to be taken at night, or oftener; but I give Indian hemp in one-grain doses so soon as I find it agrees, and sometimes in larger doses.

52. Extract of henbane gr. 2.
Dover's powder gr. 1.
53. Extract of henbane gr. 2.
Extract of Indian hemp gr. $\frac{1}{2}$.

Dumas, of Montpellier, frequently prescribed the following pills for nervous affections of the abdominal organs :

54. Castor gr. 80.
Camphor gr. 15.
Opium gr. 8.
Conserve of roses, as much as is sufficient.

To be divided into fifteen doses.

Anaphrodisiac.

55. Camphor gr. 2.
Extract of henbane gr. 1.

I give one, two, or three of these pills three times a day, when there seems to be sexual excitement and hysterical symptoms.

Tonic and Sedative.

56. Extract of henbane,
Sulphate of quinia, of each gr. 1.

To be taken every night. This is a preparation that I have often found to be well borne by women who could not bear large doses of any tonic; some have continued to take it for months, not leaving it off during the menstrual period; and it will not interfere with the action of any purgative that may be required.

Tonic.

57. Sulphate of quinia,
Sulphate of iron,
Extract of henbane, of each gr. 1.

This is very suitable in many cases, the number of pills varying according to the case. I have given two, three times a day in one instance, for many weeks.

Tonic and Laxative.

58. Sulphate of quinia	gr. $\frac{1}{2}$.
Compound rhubarb pill	gr. 2.
Extract of henbane	gr. 1.

Two of these pills to be taken at night, or one may be taken as a dinner-pill. Although this pill has only a slight purgative action, it often brings away stools that scald the passage as if mercury had been taken.

Hæmostatic.

59. Gallic acid	gr. 2.
Extract of mytico	gr. 1.
Watery extract of opium	gr. ss.

To be taken every three or four hours.

Antisyphilitic.

60. Proto-iodide of mercury	gr. 1.
Extract of henbane	gr. 2.

The pill to be taken morning and night.

MISCELLANEOUS.

Caustic Tincture of Iodine.

61. Iodine	gr. 60.
Iodide of potassium	gr. 80.
Rectified spirit of wine	to $\frac{3}{4}$ 1.

The painful parts of the back and abdomen may be painted with one coat of this tincture, once a week or oftener. The formula may be made more effectual in cases of neuralgia, by the addition of 30 grains of acetate of morphia.

COOLING POWDER.

62. Powdered starch	$\frac{3}{4}$ 5.
Powdered camphor	$\frac{3}{4}$ 1.
Powdered acetate of lead	$\frac{3}{4}$ ss.
Essential oil of bitter almonds	ʒ 20.

It is useful to dust the pudendum with this powder two or three times a day, when there is great irritation.

HOW TO REMOVE STAINS.

Stains of Nitrate of Silver.

The best way to remove stains of nitrate of silver from linen, is, to moisten the stain with a few drops of a solution of one drachm of cyanide of potassium in two ounces of water, and to add ten drops of tincture of iodine to the liquid immediately before using it. The linen should then be well rinsed in clean water. This plan is said to be effectual for the removal even of the oldest stains of nitrate of silver, provided the operation has been carried on in a moderately-lighted room.

Liquid to remove Iodine Stains.

63. Hyposulphite of soda	gr. 120.
Distilled water	$\frac{3}{4}$ 4.

The linen is to be soaked in this solution, and then washed in water.

Lead Stains.

Occasionally a patient will complain that the use of a weak solution of acetate of lead, as a vaginal injection, causes the body linen and towels to be stained reddish brown. This is owing to the decomposition of a small quantity of the acetate of lead, by the sulphuretted secretions from the skin, or from the bowels of the patient. The stain is thus due to a very small quantity of sulphuret of lead, which could only be removed by the use of such strong acids as would very much impair the tissue of the cloth.

INVESTIGANDA.

It is impossible for an author to pass in careful review the facts and theories of any art or science, without becoming aware of deficiencies that require to be made good, and of matters of fact that require further investigation. It would be eminently useful, if authors were in the habit of concluding their works by enumerating what they consider as the unsettled points of their subject-matter, and I shall therefore draw attention to the following subjects as deserving further investigation :

1st. Internal metritis: Its pathology and treatment are far from being satisfactory, and carefully-collected cases are much wanted; cases in which the patient's history is followed up till long after recovery or till death.

2d. Hypertrophy of the womb: Can it be cured by applying biniodide of mercury, or bromide of mercury, or the bibromide of mercury to the neck of the womb, and by the internal exhibition of the same remedies?

3d. Hypertrophy of the neck of the womb: Can it be cured speedily by the gradual pressure of large sponge-tents introduced into the neck of the womb, as is reported by American surgeons?

4th. Ulcers of the neck of the womb: Can they be more speedily healed by the application of chromic acid, or crystallized carbolic acid, or crystallized perchloride of iron, than by the caustics now in general use?

5th. Chronic uterine diseases: Would not their treatment be shortened by setons applied above the pubes, as practised by Huguier?

6th. Fibrous tumors of the womb: How far can we depend on their being calcified by the internal exhibition of chloride of calcium, as proposed by Dr. McClintock?

7th. Amenorrhœa : Whether the menstrual flow can be speedily brought on by aloine vaginal or rectal suppositories, or by placing in the cervical canal tents, in the confection of which aloine would enter ?

8th. Uterine malformations and displacements : What is the value of the American ring and lever pessaries, to cure or to alleviate them ?

The solution of these questions would very much add to the valuable store of therapeutical knowledge that I have recorded in this volume.

A D D E N D A .

WHILE this work was passing through the press, Mr. Maunder, of the London Hospital, has drawn attention to another mode of examining by the rectum, which, in some exceptional cases, may be useful to ascertain the presence or the absence of the womb, as well as the possibility of tunnelling up to that organ so as to make an artificial vagina, and also to establish a more accurate diagnosis of pelvic tumors. After placing the patient thoroughly under the influence of chloroform, Mr. Maunder recommends that the hand should be introduced into the rectum, with the backs of the fingers and the knuckles toward the hollow of the sacrum, up which it will glide as soon as the knuckles have passed the sphincter, either by dilating or rupturing it. Should the sphincter be ruptured, incontinence of fæces, for a short time, is a matter of little moment when compared with the great importance, in certain instances, of arriving at a positive diagnosis. I may add that this mode of examination had been already practised to remove stone from the female bladder, and to cure obstruction of the large intestine.

Since the publication of this work, Dr. B. W. Richardson has thrown down the gauntlet in favor of blood-letting, and he has advocated its use to relieve over-action in acute fevers ; to diminish tension ; to relieve the more chronic congestions until the lapse of time wrought a cure ; to stay the acute pain of serous inflammation ; to arrest muscular spasm, check hæmorrhage, and remove effects of shock by reinducing circulatory motion ; to control irregular action of the heart, and to subdue convulsion. The point in which the ancients mainly erred was, in treating convulsion by bleeding ; in uræmia, however, the practice was singularly successful. In conclusion, Dr. Richardson states his conviction that the custom in the present day, of refraining under every circumstance from blood-letting, was as cowardly as it was founded upon error.

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